

BBC

Who was Ancient Egypt's
most powerful pharaoh?

SURVIVING HENRY VIII
Alison Weir on Anne of Cleves



HISTORY REVEALED

50

GIANT LEAPS IN HISTORY

Half a century after Apollo 11,
discover more of humanity's
greatest achievements – from
Magna Carta to civil rights

WWII spy princess

The extraordinary story of
Noor Inayat Khan

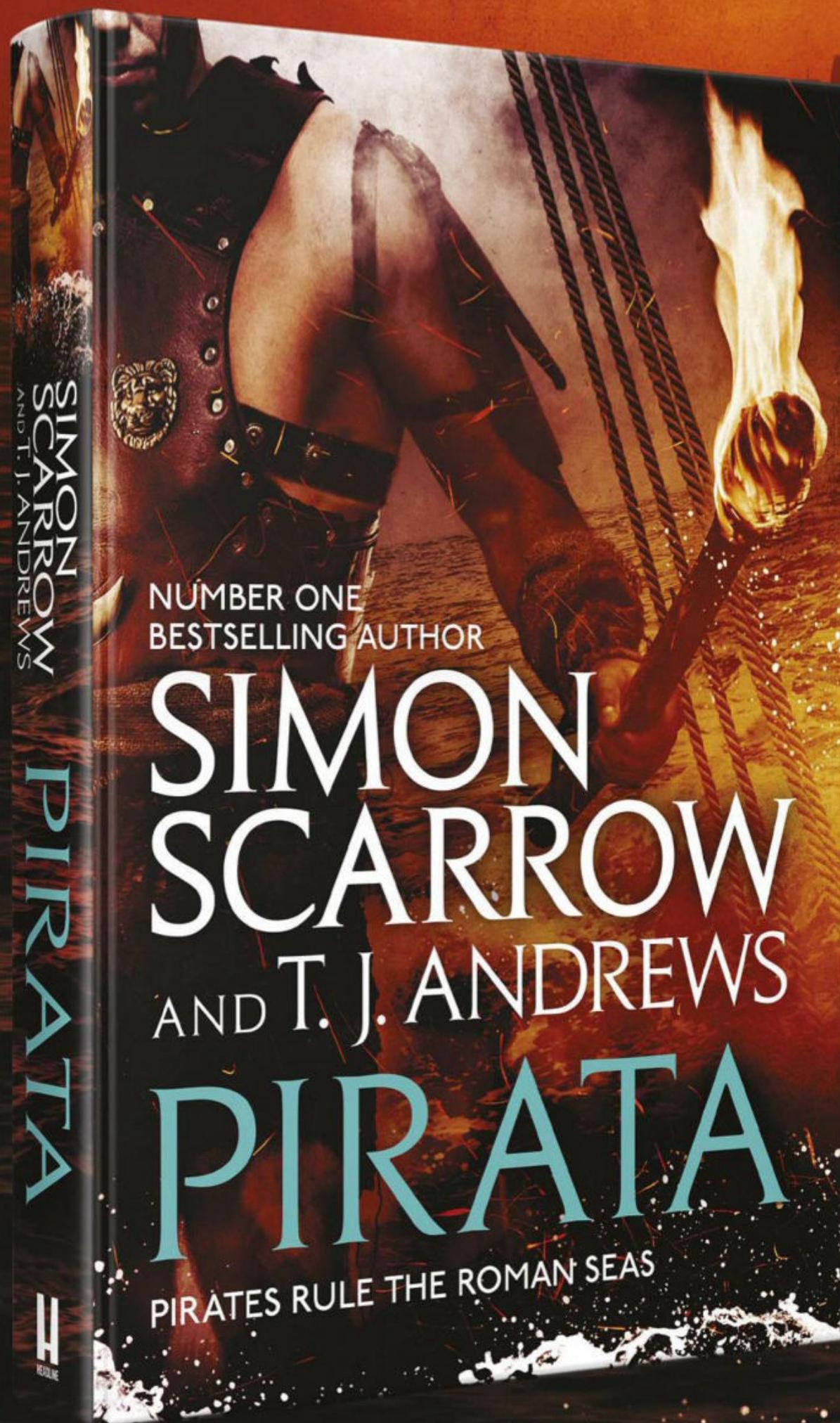


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ISSUE 71 / AUGUST 2019 / £4.99

• The Chicago race riot of 1919 • Drugs in Ancient Greece • Life on board HMS Victory

PIRATES STRIKE TERROR IN
THE HEARTS OF THOSE WHO BRAVE
THE SEAS OF THE ROMAN EMPIRE.





"Without having seen the Sistine Chapel, one can form no appreciable idea of what one man is capable of achieving"

The final frontier



On 20 July 1969, Apollo 11 landed the first humans on the Moon – bringing to an end more than 20 years of competition between two Cold War giants: the US and the Soviet Union. More than 650 million people watched with bated breath as Commander Neil Armstrong took “one small step for [a] man, one giant leap for mankind”. This month, half a century on, we examine the groundbreaking space mission and 49 other world-changing events and great leaps forward in history – from Gutenberg’s printing press and the sealing of *Magna Carta*, to civil rights and the discovery of penicillin. The feature begins on page 27: tell us about the person or event you think should have been included via the contact details on this page.

One woman from history who certainly deserves to be remembered is secret agent Noor Inayat Khan, the first female radio operator sent by Britain into Nazi-occupied France during World War II. You can read her remarkable story from page 53. We’ll also be exploring the Red Summer of 1919, which saw dozens of race riots erupt across the US (p64), and Ramesses II, father to at least 100 children and reputedly Ancient Egypt’s greatest pharaoh (p58). Oh, and we’ll also be investigating the drug trade in ancient cultures (p71).

Have a great month!

Charlotte Hodgman
Editor

Don't miss our September issue, on sale 8 August

CONTRIBUTORS



Alison Weir

One of the most prolific writers of British royal history, Alison Weir’s new book takes a look at Henry VIII’s fourth wife. See page 90.



Philip Matyszak

Journalist Philip Matyszak specialises in the ancient world and teaches online courses for the University of Cambridge. See page 71.



Lisa Hilton

Writer of both historical non-fiction and psychological thrillers, Lisa Hilton also finds time to be an occasional librettist and TV presenter. See page 17.

THIS MONTH WE'VE LEARNED...

20

Height in metres of each of the four stone statues flanking the Great Temple at Abu Simbel, the masterwork of Ramesses II – all of which represent the Pharaoh. See page 58.

8,000

How many protective Terracotta warriors are estimated to have been buried in the tomb of China’s first emperor, Qin Shi Huang – along with chariots and horses. See page 27.

38

The number of people killed during the Chicago race riots of 1919. More than 500 people were injured in the eight days of violence directed towards black Americans. See page 64.

ON THE COVER



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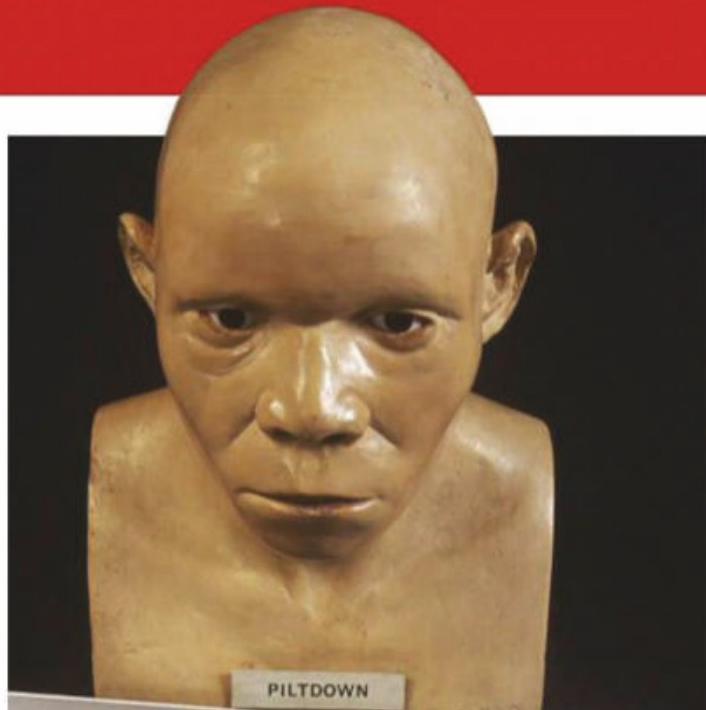
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USPS Identification Statement *BBC History Revealed* (ISSN 2632-6930) August 2019 is published 13 times a year (monthly, with a Christmas issue in November) by Immediate Media Bristol LTD, Eagle House, Colston Avenue, Bristol, BS1 4ST, UK. Distributed in the US by NPS Media Group, 2 Corporate Drive, Suite 945, Shelton, CT 06484. Application to Mail at Periodicals Postage Prices is Pending at Shelton, CT and additional mailing offices. Postmaster: Send address changes to *BBC History Revealed*, PO Box 2015, Langhorne, PA 19047.

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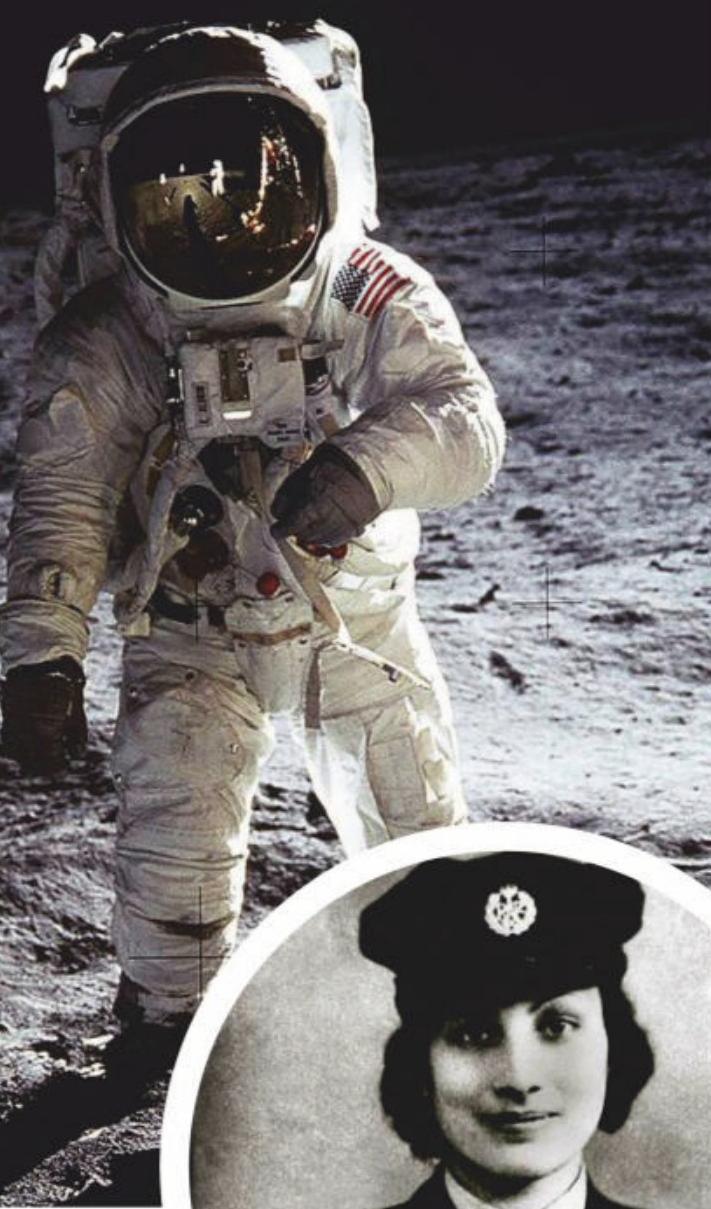
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50 GIANT LEAPS IN HISTORY

Featuring space exploration, science, politics and beyond



FEATURES

50 Giant Leaps in History

Half a century after the Moon landing, we chart 50 of humankind's greatest leaps forward, whether for good or ill p27

Noor Inayat Khan

The first female radio operator sent to occupied Paris during WWII was an enigma: a pacifist of royal heritage who seemed unwilling to tell a lie p53

Was Ramesses II Really That Great?

History records him as being one of the greatest pharaohs who ever lived – but was he really a war hero and visionary, or just exceptionally good at PR? p58

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Stonings in the streets. Families uprooted. Entire districts razed. Chicago saw one of the worst race riots in the truculent 'Red Summer' of 1919 p64

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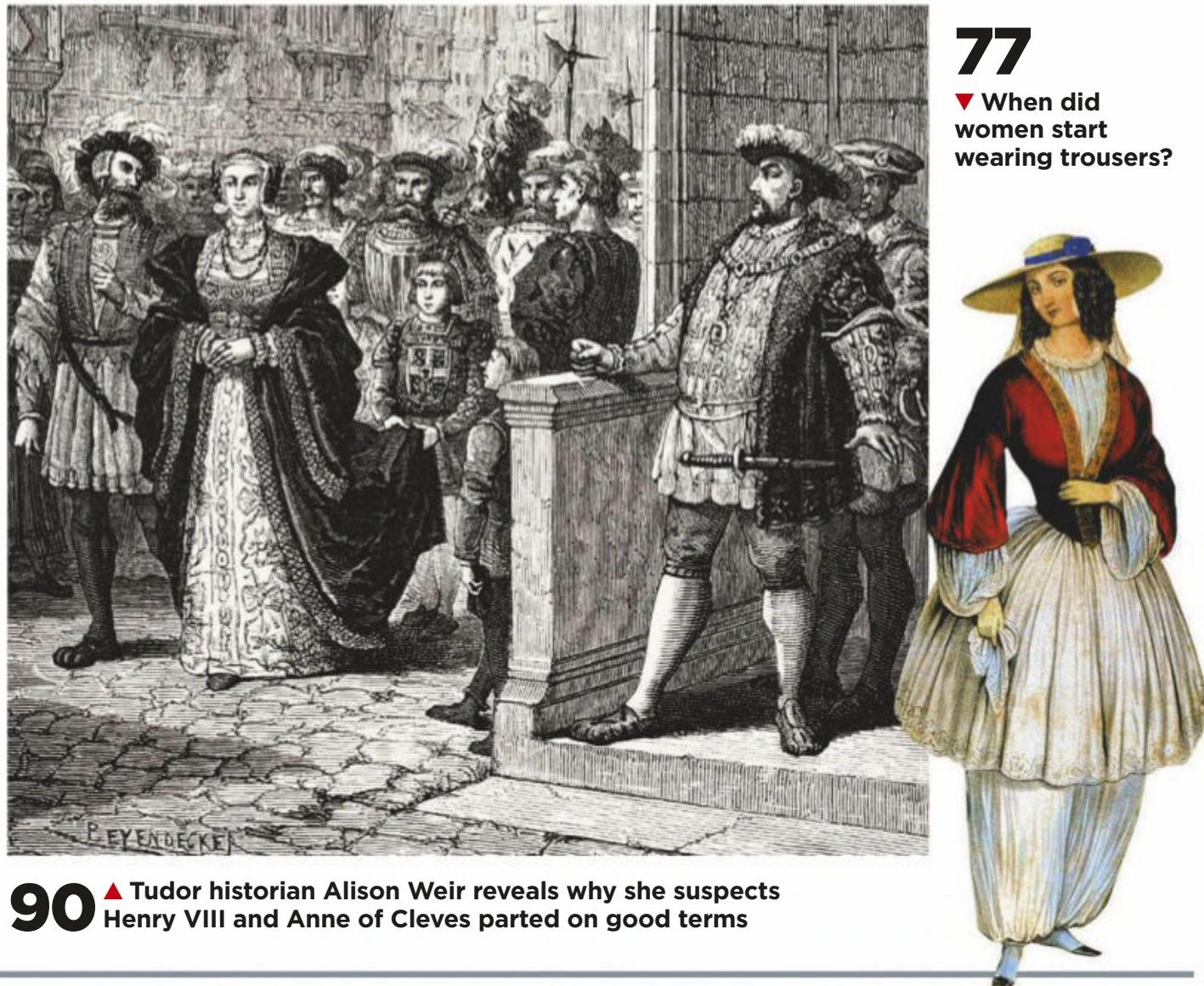
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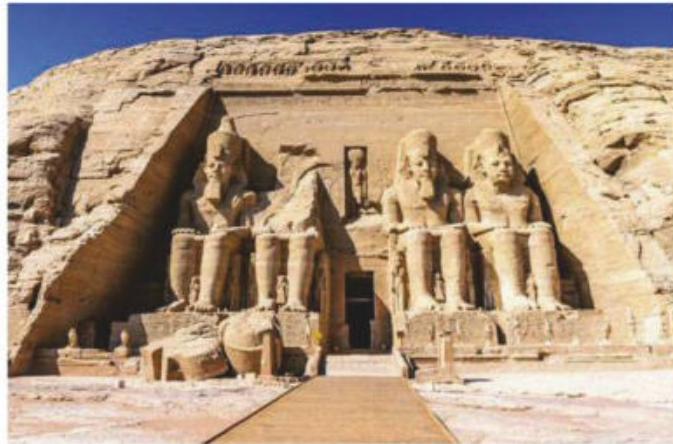
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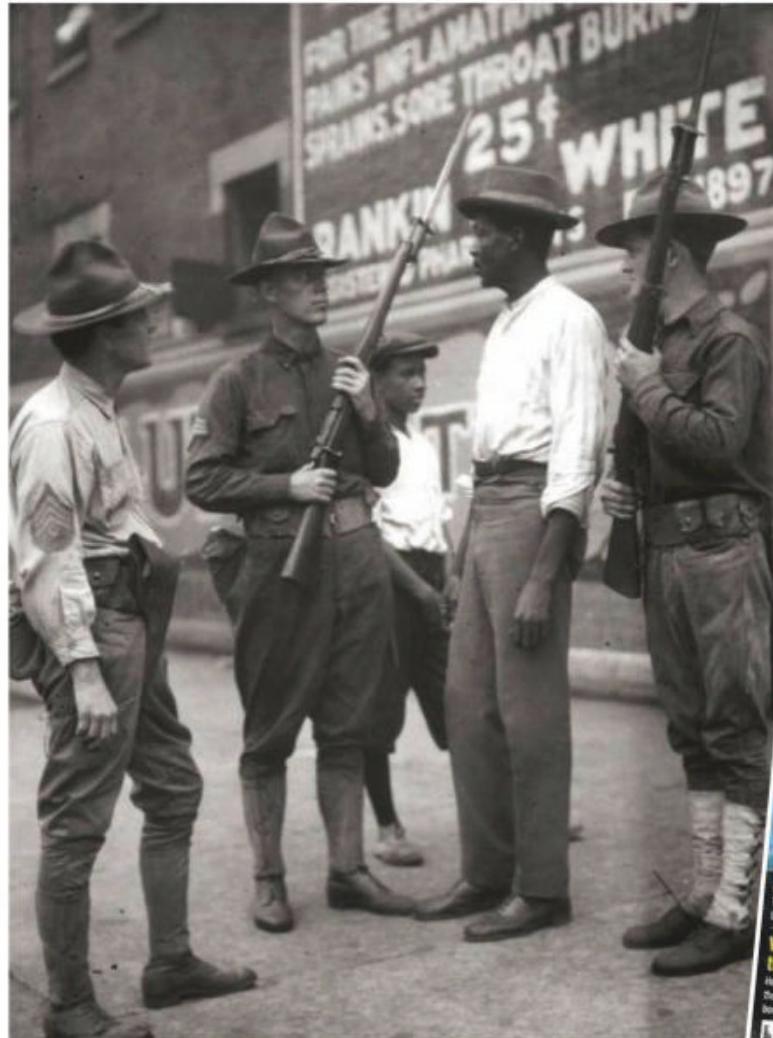
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our special offer
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SNAPSHOTS



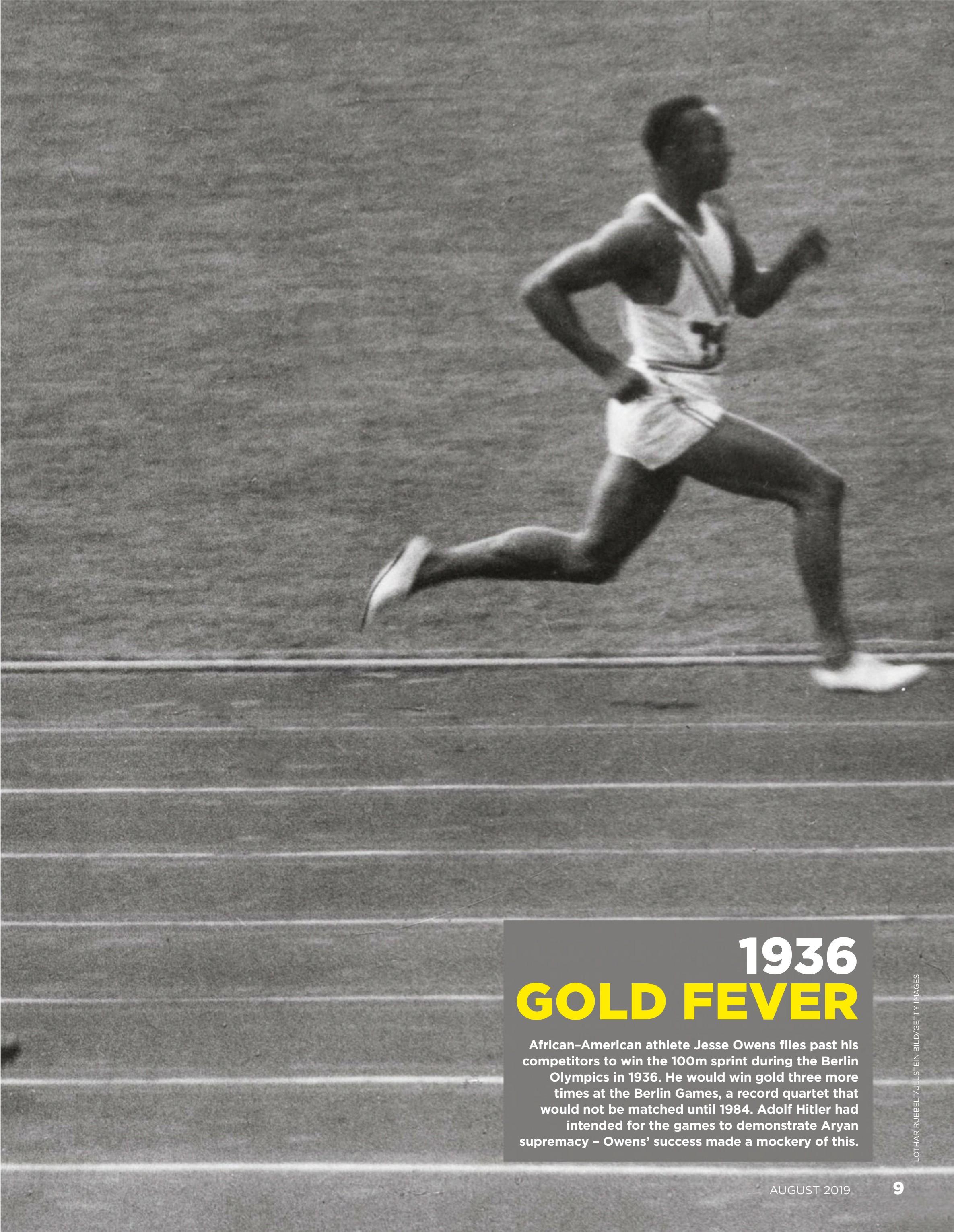


1944 **WALK OF SHAME**

Accused of collaborating with German soldiers during the Nazi occupation of France, these two Frenchwomen are being paraded through Paris – with heads shaved and swastikas painted on their foreheads, their complicity clear for all to see. At least 20,000 women had their heads shaved in France during this time. Many of these were prostitutes who had accepted German clients, or mothers whose children had been fathered by soldiers of the German army.

SNAPSHOTS





1936 **GOLD FEVER**

African-American athlete Jesse Owens flies past his competitors to win the 100m sprint during the Berlin Olympics in 1936. He would win gold three more times at the Berlin Games, a record quartet that would not be matched until 1984. Adolf Hitler had intended for the games to demonstrate Aryan supremacy – Owens' success made a mockery of this.

1950 HITTING THE HIGH LIGHTS

These men are tackling the dizzying heights of Blackpool Tower – without hard hats or safety harnesses, it seems – to repair its famous lights. The 518ft tower, which opened in 1894, also needs regular repainting, a process that takes around seven years. Those that take on the perilous task of maintaining the Tower are known as stick men.





visit
Mons

.be

From WWI to WWII, MONS remembers

Mons, in the French-speaking part of Belgium (Wallonia) is at a European strategic crossroads which has always played host to historical conflicts. From the Battle of Malplaquet (1709) to both world conflicts.

During the week-end of the 31st of August and 1st of September, we will commemorate the 75th anniversary of the liberation of the town in September 1944 by US troops.

TANKS IN MONS

31st August & 1st September

The only commemoration of its kind in the world, celebrating the liberation of the town of Mons with a parade of WWII vehicles.

Shermans, Chaffees, Pershings, Tank Destroyers, Half Tracks, armoured cars, jeeps, lorries and several other vehicles will peacefully drive through the historic centre of Mons.

Iconic post war vehicles such as **the Léopard tank** will also be presented to the public.

They will be following in the tracks of the American armoured convoy that drove through Mons in 1944.

SAINT-SYMPHORIEN CEMETERY

Discover the military cemetery of Saint-Symphorien, a true haven of peace. This cemetery, probably one of the finest in Belgium, is in a very quiet, rural spot. Guided tours available.

MONS MEMORIAL MUSEUM (MMM)

Displaying about 5,000 artefacts from the two World Wars, the museum aims to personalise the war experience, focusing as much on the men who wielded the weapons as the weapons themselves.

For the occasion, the MMM will host several events:

On August 30th, a Sherman tank will be permanently installed in front of the MMM to commemorate the liberation of the town of Mons. This vehicle is emblematic of the Liberation of our regions.

On August 31st from 7 pm, immerse yourself in the festive atmosphere of the Liberation Ball. In period dress, come along and boogie to the jazz beats of the Glen Miller Band and other post-war bands. There will also be a camp with reenactors during the whole weekend of commemorations.

Get more information on
www.visitmons.co.uk

Information on guided tours and bookings
michel.vasko@ville.mons.be

REWIND

Giving you a fresh perspective on the events and findings from history

HISTORY IN THE NEWS

MAIN: Finds include this bloom from an iron furnace, several of which have been discovered in situ

INSET: More than two tonnes of pottery has been excavated



ROMAN TOWN DISCOVERED IN KENT

An exceptionally preserved settlement may hold clues to Kent's Roman past

A Roman town has been uncovered in Kent during the construction of a new housing development. This major settlement has been named by archaeologists as one of the most significant Roman sites found in Kent and Britain.

Previous remains found nearby hinted at Roman occupation, but this settlement is much larger than expected.

Discovered near a major road in Newington, near Sittingbourne, the 18-acre site contains evidence of Iron Age and Roman settlements, along with pottery and jewellery.

One of the most interesting finds from the excavations –

carried out by Swale and Thames Archaeological Survey (SWAT Archaeology) – is a seven-metre-wide road. This thoroughfare appears to predate Watling Street – traditionally thought to be the main Roman road between London and the Kent coast.

A Romano-Celtic temple has also been unearthed – rare in England, these are considered to be of national importance. Dr Paul Wilkinson, archaeological director at SWAT Archaeology, said: "This is one of the most important discoveries of a Roman small town for many years. The preservation of its Roman buildings and artefacts is exceptional."

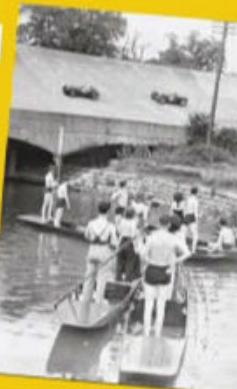
Celtic coins have been found among the remains, depicting the kings of pre-Roman Britain, as well as jewellery – suggesting some of the occupants of the area were of high status.

The chairman of Newington History Group, Dean Coles, said: "This is very exciting. The scale of this site, with the huge number and quality of its finds, changes our knowledge of Newington's development."

Once all the finds have been analysed and recorded, the building work will continue and some of the rarer items found will be put on display in museums.

COLOUR PHOTO

An unusual vantage point for motor racing...p16



YOUR HISTORY

Historian, author and librettist Lisa Hilton...p17

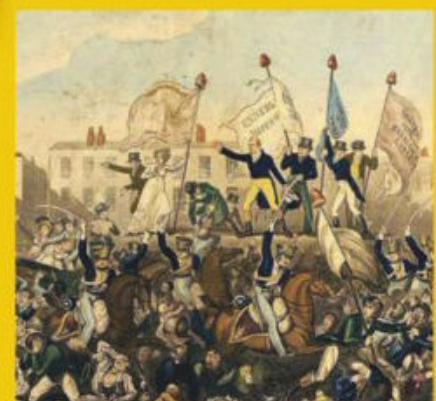
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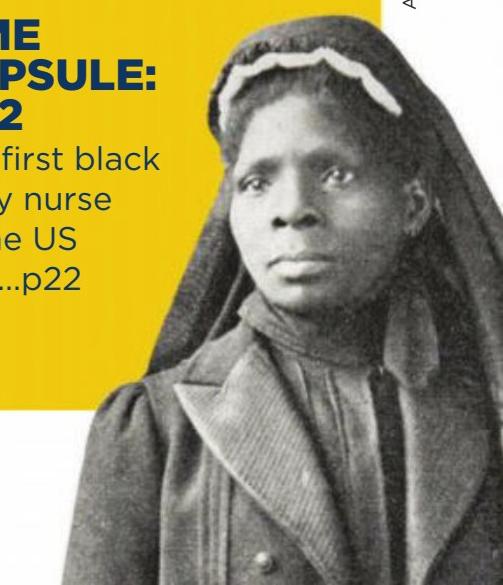
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How Peterloo presaged parliamentary reform...p20



TIME CAPSULE: 1912

The first black army nurse in the US dies...p22





The warden is a bit weatherbeaten – he's even missing an eye

LOST LEWIS CHESSMAN DISCOVERED IN A DRAWER

The lost piece is one of five missing from the initial discovery in 1831

One of the fabled missing Lewis Chessmen has been found – after more than half a century languishing in a drawer. The piece, a warden (equivalent to a rook), was bought for £5 in 1964 by an Edinburgh antiques dealer who was unaware of its significance – he recorded it as an “antique walrus tusk warrior chessman” – and it was passed down through his family. Experts at Sotheby’s auction house in London, where the piece was examined, were amazed to discover what the object was.

The original 93 chess pieces, made of whale teeth and walrus ivory, were found on the Isle of Lewis in the early 19th century and are now housed between the British Museum and the National Museum of Scotland. The extraordinary

figures were probably carved in late 12th or early 13th-century Norway, with enough pieces for four chess sets.

A spokesperson for the family said: “My mother was very fond of the chessman as she admired its intricacy and quirkiness. She believed that it was special and thought perhaps it could even have had some magical significance.”

“For many years it resided in a drawer in her home where it had been carefully wrapped in a small bag. From time to time, she would remove the chess piece from the drawer in order to appreciate its uniqueness.”

It’s unclear how the chess pieces originally ended up on Lewis, with some experts concluding that they were buried by a travelling merchant and hidden in the sand for 500 years.

MODERN DRINKERS SHARE A MEDIEVAL TASTE IN WINE

A French variety of wine has remained unchanged for centuries

A modern-day wine produced in France is made from an identical grape to those used in medieval times, according to scientists. DNA taken from 900-year-old grapes has been found to be identical to vines producing savagnin blanc today – an ancient grape variety not to be confused with sauvignon blanc.



£552,000

The sum fetched by this gold coin, found on a farm near Dover, Kent, at auction. The coin, barely larger than a penny, bears the face of Allectus, a third-century emperor of Roman Britain, who murdered his predecessor.

HOLOCAUST BOOK WINS WOLFSON PRIZE

The prize recognises history for a general audience

Mary Fulbrook has won the 2019 Wolfson History Prize for her book, *Reckonings: Legacies of Nazi Persecution and the Quest for Justice*, which examines the legacy of the Holocaust and exposes the myths surrounding the justice carried out in the aftermath. Fulbrook (below) is a leading academic in German history and is a professor at University College London.

The prestigious prize is an annual literary award, celebrating history writing aimed at a general audience. The judges noted: “Quoting many moving accounts from victims of the extreme cruelty perpetrated by the Nazis, Fulbrook moves through the generations to trace the legacy of Nazi persecution in postwar Germany.”



ANCIENT POPULATION DISCOVERED

A Siberian site holds clues to a new group of humans

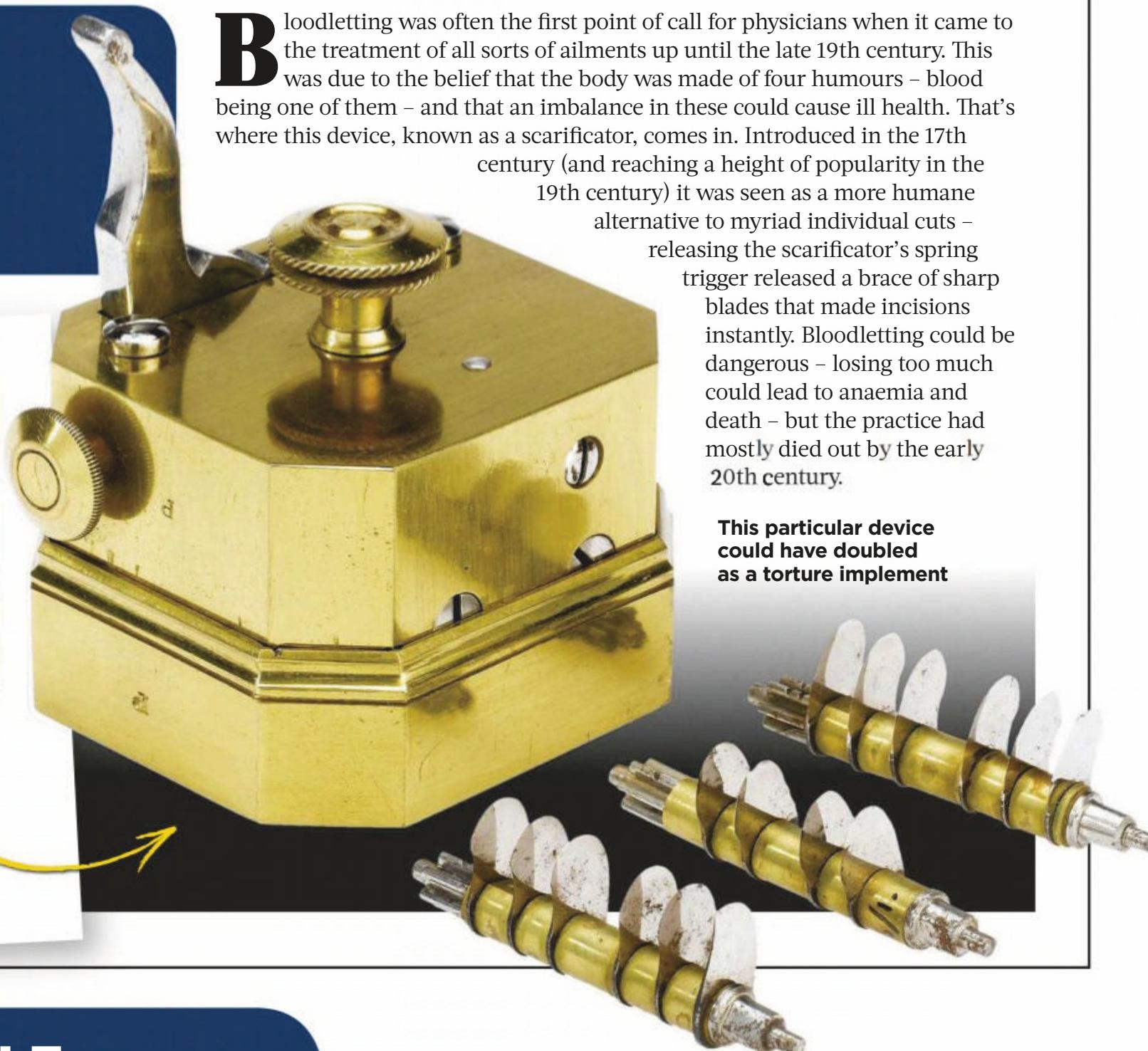
Evidence of a previously unknown group of ancient humans has been discovered in Siberia. Tests on two 30,000-year-old human teeth, found at the Yana Rhinoceros Horn Site in Russia, have revealed them to be genetically different to East Asians and Western Eurasians. The new group has been labelled Ancient North Siberians. It’s hoped the discovery will lead to more information on the ancestors of native North Americans, believed to have arrived from Eurasia.

TIME PIECE

A look at everyday objects from the past

CLEAR-CUT MEDICINE

Doctors used to believe you had to be cruel to be kind



JACOBITE BATTLE REMAINS FOUND

Mortar fragments have been found from a near-forgotten Scottish uprising

Debris has been discovered from the Battle of Glenshiel, the only significant engagement of the short-lived Jacobite Rebellion of 1719. A team of archaeologists found coehorn mortar shell fragments and a musket ball near Kyle of Lochalsh in northwest Scotland. What makes the find all the more significant is that the Battle of Glenshiel was the first time the coehorn mortar shell – developed in the Netherlands – was used on British soil.

This almost forgotten battle saw Jacobite rebels, backed by a few hundred Spanish

soldiers, bested by a smaller force loyal to King George I. The rebellion represented the last attempt to restore James Francis Stuart – known as the ‘Old Pretender’ – to the throne. He was the son of James II and VII, who had been deposed during the so-called Glorious Revolution of 1688.

Stuart lived the remainder of his life in exile in Rome, leaving his son – Charles, the Young Pretender – as the focal point for the last Jacobite rebellion in 1745, which was quashed with the 1746 defeat at Culloden.



The shell fragment was from a coehorn, a mortar developed in the Netherlands

HISTORY IN COLOUR

Colourised photographs that bring the past to life



SURREY, 1938

These revellers are making the most of the August bank holiday by watching the racing at Brooklands circuit from an unusual vantage point – punts on the River Wey. The track in Weybridge, Surrey, was the world's first purpose-built motor circuit when it opened in 1907. The last races were held the year after this photo was taken, and during World War II the site was a military aircraft production facility.

See more colourised pictures by
Marina Amaral [@marinamaral2](https://twitter.com/marinamaral2)

YOUR HISTORY

Lisa Hilton

The journalist and historian names the medieval author she'd love to meet (move over, Chaucer) and reminds us that you don't have to be famous to have a story to tell



BBC FOUR Lisa Hilton's *Charles I and a Nation Divided*, a three-part documentary on the disastrous reign of the Stuart king, is due to air on BBC Four in July

Q If you could turn back the clock, which single event in history would you want to change?

I'd change the route that took Archduke Franz Ferdinand through Sarajevo in 1914. The chauffeur took a different street at the last moment, leading to the Archduke's assassination by Gavrilo Princip and contributing to the outbreak of World War I. That war is one of those historical moments identified by poet Rainer Maria Rilke that divide time ineradicably between "the time until" and "the time after". Its causes are myriad and complex, but perhaps if the driver hadn't made that fatal turn, the war – and the appalling suffering that ensued – might have been postponed, if not avoided.

Q If you could meet any figure from history, who would it be?

When my grandmother, Sarah Sadie Storrey, died in 2010, I felt an immense regret that I hadn't spent more time asking her about her life. She was born in the 1920s, and she witnessed the most radical social changes Europe has ever seen. I felt I could have learned so much from her. History inevitably concentrates on famous figures (particularly

in the case of women), because there is relatively little evidence available about the lives of non-elite people.

Q If you could visit any historical landmark in the world tomorrow, where would you go?

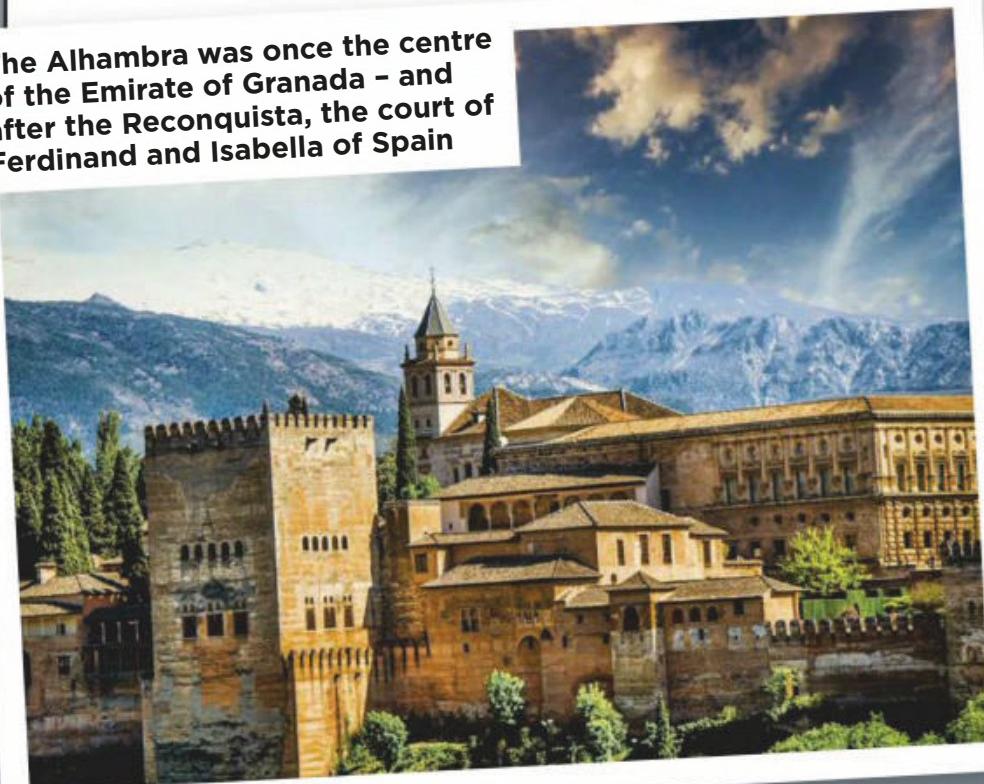
The Alhambra in Spain. I'd like to spend the night in the gardens, listening for ghosts. If I could time travel, I'd like to visit Venice, where I live, in the 18th century, and see it as the decadent, glamorous, vital city it was just before its thousand-year empire came to an end under Napoleon.

Q Who is your unsung history hero?

Medieval author Christine de Pisan. She was Venetian, though she spent most of her life at the courts of France. She's acknowledged as Europe's first professional woman of letters, and her *The Book of the City of Ladies* presents a robust case against the prejudices faced by women, due to the exclusion of their voices from cultural discourse. Christine was widowed, and at a time when 'careers' were closed to women, she supported her children with her writing. Personally and politically, she is a hero, but I also love her wit about the trials of being a working mother.

"There is relatively little evidence about the lives of the non-elite"

The Alhambra was once the centre of the Emirate of Granada – and after the Reconquista, the court of Ferdinand and Isabella of Spain



DAILY SKETCH, MONDAY, DECEMBER 18, 1916.

100 GUNS AND 10,000 PRISONERS:

LATEST ESTIMATES OF THE SPOIL IN FRANCE'S GREAT VICTORY AT VERDUN.

DAILY SKETCH.

GUARANTEED DAILY NETT SALE MORE THAN 1,000,000 COPIES.

No. 2,427.

LONDON, MONDAY, DECEMBER 18, 1916.

[Registered as a Newspaper.]

ONE HALFPENNY.

PLAYING FOOTBALL IN GAS HELMETS



The goggled goalkeeper.



A team lined up. They look more like Demon Kings of Pantomime than footballers.

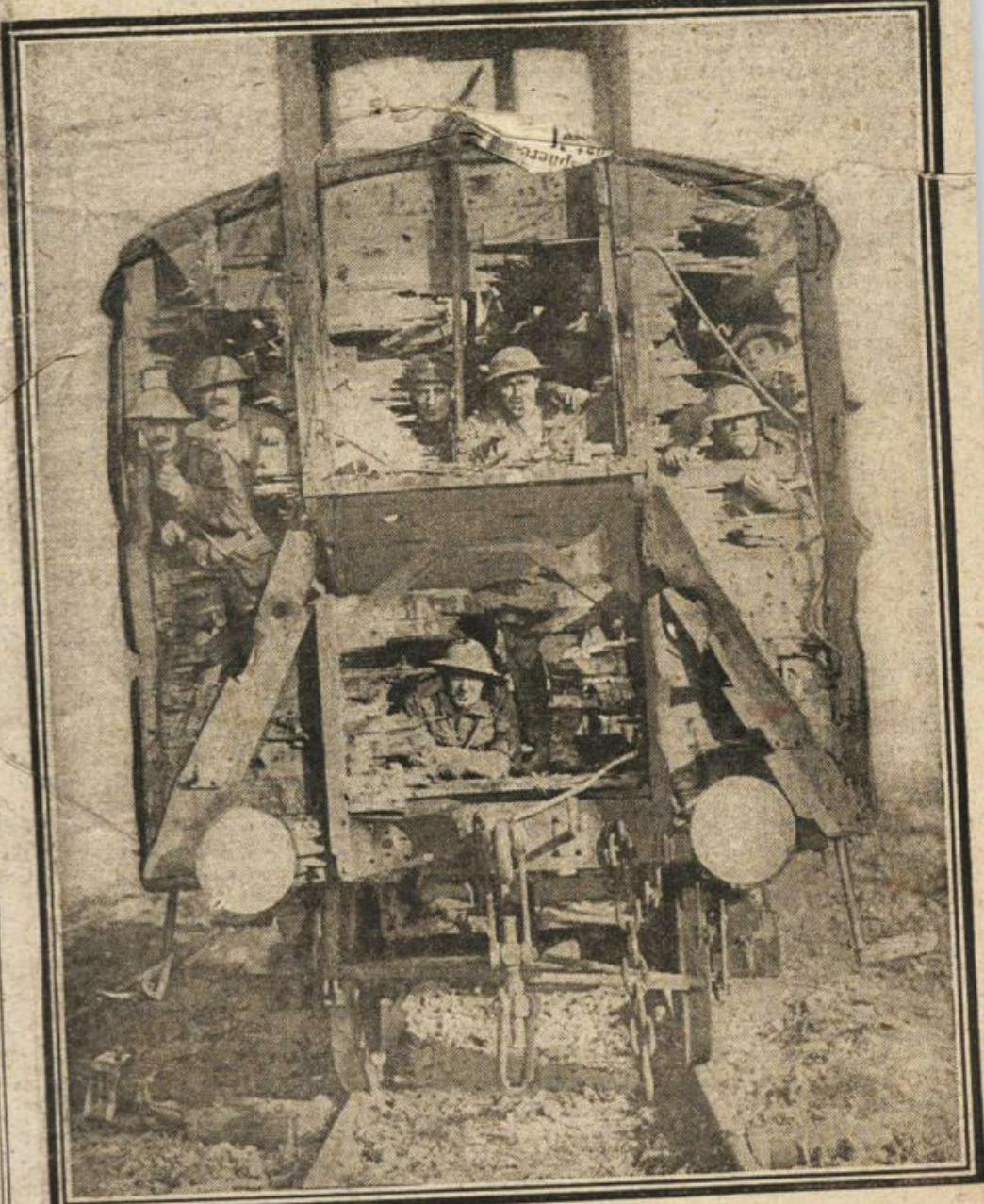


The first goal.



"Use your gas-mask!" will be the cry instead of "Use your head!" In order to get used to wearing gas-helmets while engaged in strenuous action, men of a Royal Fusilier battalion are being trained to wear these protectors while playing football. The referee's task is more than usually difficult, since all the players look alike.

A Wagonful Of Happy Warriors On The Ancre.



It's not even fourth-class travelling on the railways in the Ancre region nowadays. But these happy warriors are quite content to make the best of everything in wartime.

—(Official Photograph).

YESTERDAY'S PAPERS

Another timeless front page from the archives

TACKLING TRENCH BOREDOM

Football was used as a training tool in the trenches as well as a way of keeping morale high

It might seem a strange sight, but these soldiers really are playing football in gas masks. Beyond the famous Christmas Day matches that have gone down in legend, games of football were not unheard of on the Western Front. As this 1916 edition of the *Daily Sketch* shows, soldiers would often play football away from the front lines with their gas masks on, in order to get used to the cumbersome equipment. There were other benefits, too: football kept the soldiers fit, bolstered their spirits and allowed them to blow off some steam during lulls in the fighting.

A football was even used to signal the start of an attack on the first day of the Somme – 1 July 1916. The 8th Battalion of the East Surrey Regiment was preparing to go over the top towards the German lines. To take the mens' minds off the impending horror, one officer provided footballs (at least two; some retellings say four) to kick across No Man's Land and inspire their charge. Many of the soldiers continued to boot the balls forward on the ground as they advanced. They were one of the few battalions to make it across that day; two footballs also survived the chaos.

Nineteen months earlier, on Christmas Day 1914, football was said to be a symbol of peace and common ground. Although the enduring and wishful myth of German and British soldiers coming together for a kickabout over a rendition of *Silent Night* may not be entirely accurate, individual soldier accounts do report of various truces occurring across the

Western Front – though elsewhere, the fighting carried on.

Football fans back in Britain were directly targeted for army recruitment campaigns. Two dedicated Football Battalions were established, formed of professional footballers from England, Scotland and Wales. Even the women left behind, now working in factories and elsewhere in jobs once held by men, embraced the beautiful game. Women's football teams sprang up across the country, both as a way of maintaining fitness and to raise money for the war effort.

The first women's team was Dick, Kerr Ladies FC, formed in 1917 from the workforce of a Preston-based manufacturer. They drew spectators in their thousands and played charity matches for injured soldiers. ◎

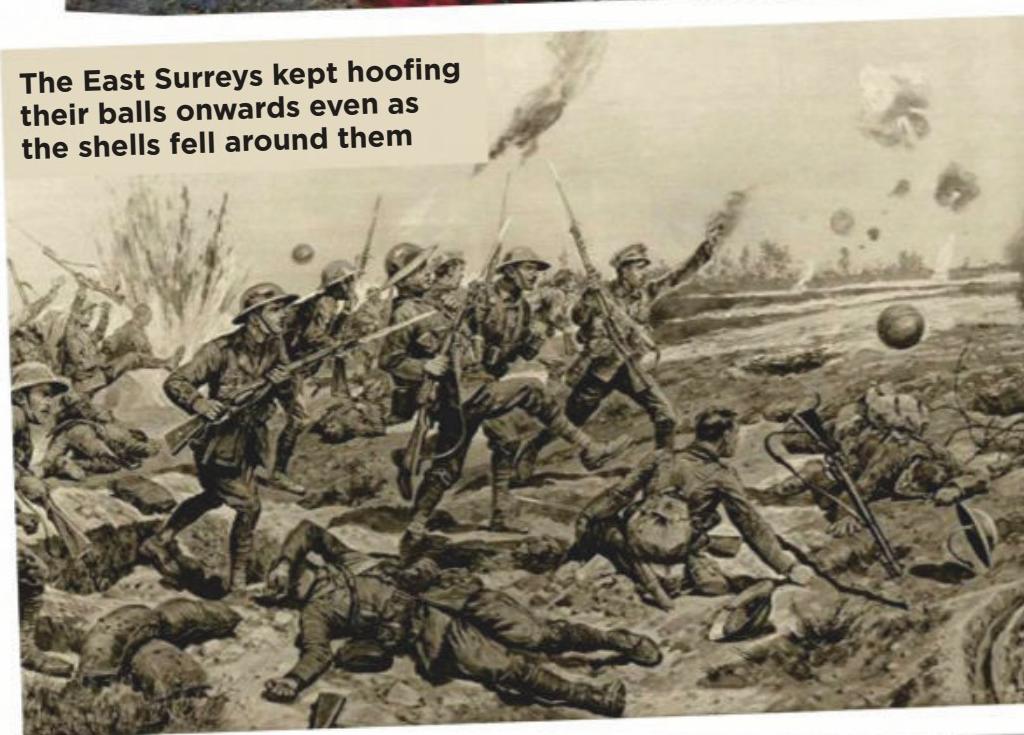
Womens' football matches were every bit as physical as the mens'



A memorial at Ploegsteert Wood in Flanders marks the spot of one of the truces of 1914



The East Surreys kept hoofing their balls onwards even as the shells fell around them



THIS MONTH IN... 1819

Anniversaries that have made history

MASSACRE AT PETERLOO

A peaceful protest in Manchester quickly turns into bloody chaos

On 16 August 1819, more than 60,000 people gathered at St Peter's Field, Manchester, bearing banners with the words 'Reform' and 'Equal Representation' written on them. The reform they wanted was that of Parliament itself – less than two per cent of the population were eligible to vote – and an end to the extreme poverty that gripped Britain. That, too, was deemed Parliament's fault: the Corn Laws of 1815, which had introduced tariffs on imported grain at the end of the Napoleonic Wars, had seen the price of bread become astronomical.

Famed radical orator Henry Hunt was scheduled to speak to the gathered crowds – many of whom had journeyed from miles around, some in their Sunday best. For those attending, it was an exciting day out; the processions heading for Manchester were accompanied by bands. Local magistrates watched the assembling crowd with some trepidation, imagining the gathering as having revolutionary and dangerous intentions. The magistrates attempted to read the crowd the Riot Act (from which we get the idiom – the now-defunct Act of 1714 gave authorities the ability to declare any group of 12 or more persons as being "unlawfully assembled").

Soldiers and cavalry watched on when the local militia was tasked with arresting the ringleaders. The protesters linked arms to prevent the arrests, at which point the militia began striking down people with their swords. This was mistaken as an attack by the protestors, causing the rest of the troops to engage the already bottled-up crowd.

At least 11 people, including women and children, were killed during the horror that unfolded. Around 700 others received serious wounds as the soldiers slashed their way through. Many of the protest leaders were

arrested, and the magistrates received messages of congratulations from the Prince Regent – later George IV. But the majority of the public sympathised with the protestors, and began using the term 'Peterloo' in mockery of those who had attacked unarmed civilians – among whom were many who had returned from the Battle of Waterloo as heroes.

The Government responded with a crackdown: a series of laws, known as the Six Acts, intended to quash radical activity amidst the threat of revolution. Holding public meetings of more than 50 people now needed the permission of a sheriff or magistrate. Shocked by what he had witnessed, businessman John Edward Taylor set up *The Manchester Guardian* – now *The Guardian* – to promote liberal interest and civil liberty.

Although it wouldn't happen immediately, the massacre at Peterloo did alter people's perceptions regarding voting rights and led to the rise of Chartism – a working-class movement that called for parliamentary reforms. Chartist demands included universal suffrage for men and payment for MPs, to enable those of modest means to take part in politics. The Reform Act of 1832 would extend voting rights to adult males who rented land over a certain value – but it wouldn't be until 1928 that all adults over the age of 21 were given equal voting rights in Britain. ◎

GET HOOKED

LISTEN

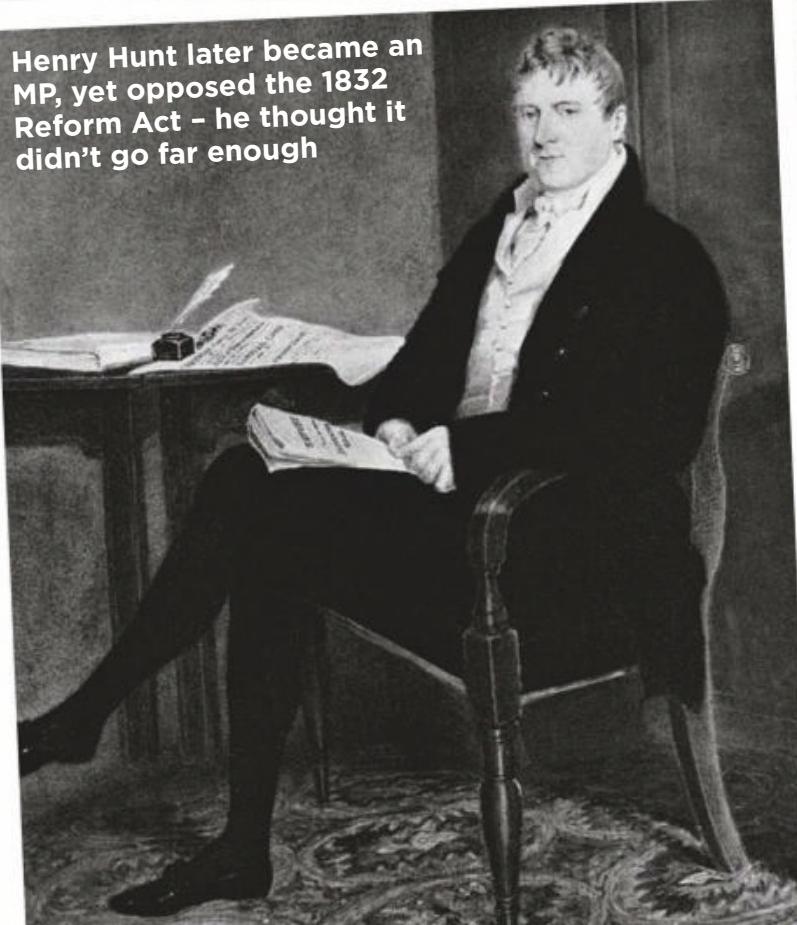


Melvyn Bragg discusses the Peterloo Massacre on *In Our Time* on BBC Radio 4
www.bbc.co.uk/programmes/p003k9f7

The Peterloo Massacre was a peaceful protest stamped out in a brutal fashion



Henry Hunt later became an MP, yet opposed the 1832 Reform Act – he thought it didn't go far enough



“At Waterloo there was man to man but [at Peterloo] it was downright murder”

The reported words of John Lees, an ex-soldier, who died a few weeks after suffering fatal wounds at Peterloo



TIME CAPSULE 1912

Snapshots of the world from one year in the past

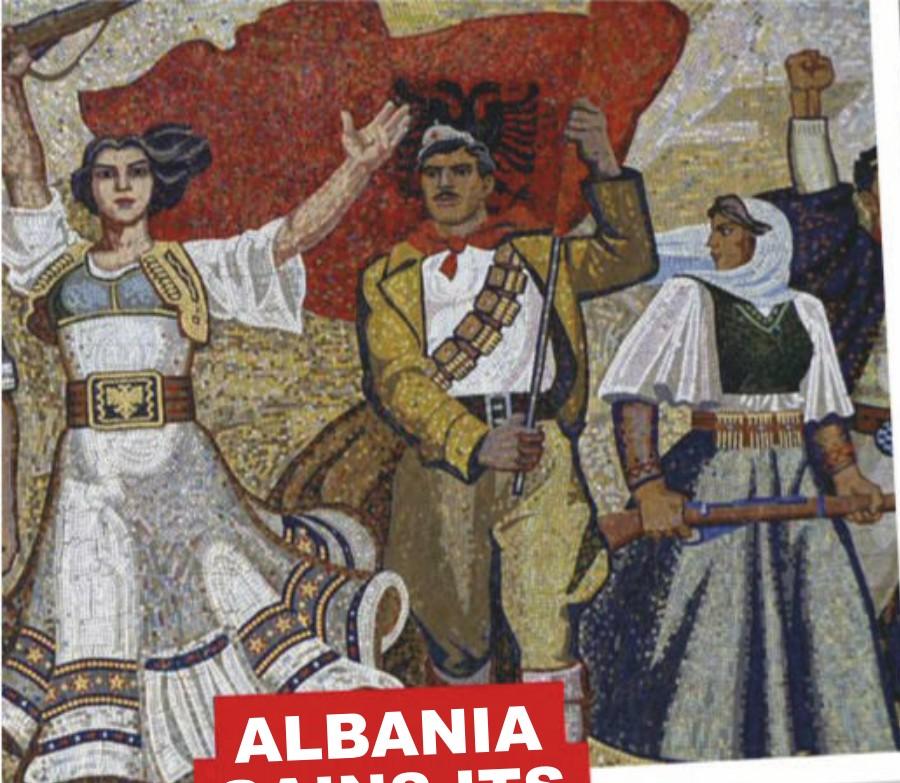
PILDOWN MAN FOOLS ARCHAEOLOGISTS

In December 1912, newspapers across Britain declared that the 'missing link' – an unknown species between ape and man – had been found, therefore proving Darwin's evolutionary theory. Charles Dawson, an amateur archaeologist, claimed to have stumbled across a skull and jawbone in Piltdown, Sussex, which he believed belonged to a human ancestor more than 500,000 years old. It would take 40 years for the 'Piltdown Man' to be proved a hoax – testing revealed that the jawbone was a filed-down specimen from an orangutan, while the skull was an unusually thickened human skull coloured to look older. The identity of the forger is a subject of some debate: over the years several names have been linked to the false find, though many believe that it was a ploy envisaged by Dawson himself.



An excited scientific community gave the Piltdown Man his own species name: *Eoanthropus dawsoni*, or 'Dawson's dawn-man'





ALBANIA GAINS ITS INDEPENDENCE

After 400 years of Ottoman rule, the independent nation of Albania emerged in Europe. Albanian nationalism had been growing since the mid-19th century, but it took the Ottomans' defeat in the Balkan Wars to set it free. An Albanian revolt took place between January and August 1912, which exposed the weaknesses of the Ottoman Empire. The Balkan League declared war on the Empire and on 28 November the All-Albanian Congress declared Albania's independence. That independence was recognised by the 1913 Treaty of London, which also permitted the 'Great Powers' to determine the country's new borders. Thousands of ethnic Albanians were displaced as a result, scattering across neighbouring Greece, Montenegro and Serbia.

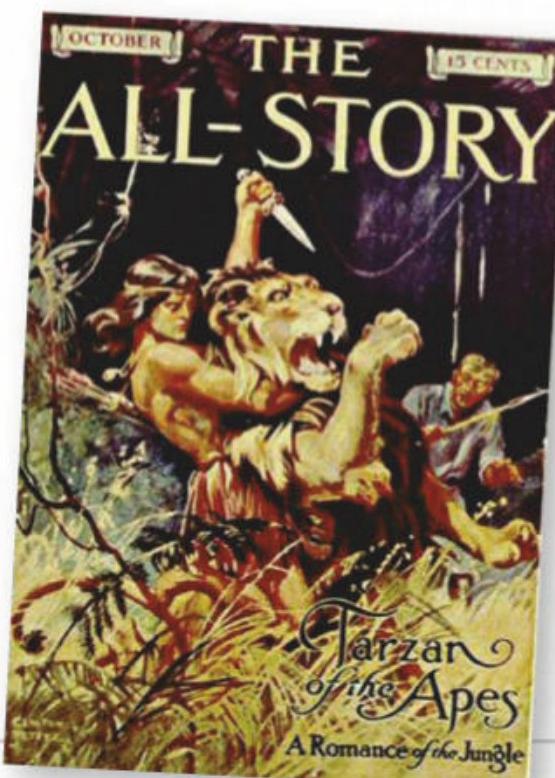


HARRIET QUIMBY BECOMES FIRST WOMAN TO FLY OVER THE CHANNEL

Originally a writer, Harriet Quimby became determined to learn how to fly after watching an air show in 1910. Becoming the second woman licensed to fly (after Baroness de la Roche), she began to prepare for her record-breaking feat. On 16 April 1912, she flew her Bleriot monoplane from Dover to Hardelot in France, becoming the first woman to fly the English Channel and a celebrity overnight. Quimby tragically died in July the same year when she lost control of her plane over Boston Harbor, but her achievements inspired women in aviation.

WELCOME TO THE JUNGLE

After years of unfulfilling jobs, American Edgar Rice Burroughs turned his hand to writing fiction, experimenting with science fiction and pulp magazines. In 1912, he gave *The All-Story Magazine* the unusual tale of Tarzan – the son of an English aristocrat who is raised in the jungles of Africa by apes. The story became so popular that it was published as a novel called *Tarzan of the Apes* two years later, spawning 23 sequels as well as numerous film adaptations.



ALSO IN 1912...

1 JANUARY

The Republic of China is formed, after the last imperial family – the Qing dynasty – is overthrown. It lasts until 1945, after which a civil war leads to the creation of the People's Republic of China in 1949.

1 JANUARY

The first Bay to Breakers race in San Francisco is held to raise the spirits of the city's citizens, who were still recovering from the 1906 earthquake. It's the longest consecutively run foot race in the world.

MARCH

The famous chocolate sandwich cookies, Oreos, are first introduced in the US by the National Biscuit Company.

30 APRIL

Universal Studios, the oldest US film studio and fifth oldest in the world, is founded. Its first studio lot is still in use, but is now also home to one of the most popular theme parks in the world – Universal Studios Hollywood.

6 JUNE

Alaskan volcano Novarupta erupts for 60 hours – making it the largest volcanic eruption of the 20th century.

DIED: 6 OCTOBER SUSIE KING TAYLOR

Born a slave in the US state of Georgia, Susie King Taylor gained an education – illegal for African-Americans at the time – in a secret school. During the American Civil War, she tended to an army troop, becoming the first black army nurse. She later became the first African-American to teach in a school for former slaves.



BORN: 2 FEBRUARY MILLVINA DEAN

In April 1912, two-month-old Millvina Dean and her family boarded a ship in Southampton, UK, bound for the US. A coal strike saw them transferred to RMS Titanic. Millvina, her mother and brother survived the sinking, but her father was never found. She was the youngest survivor on board, and when she died in 2009, the last.

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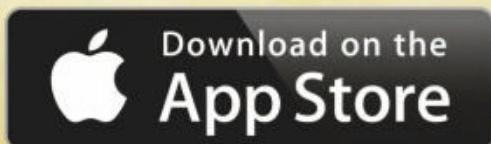
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AN ENGLISHMAN ABROAD

GIANLUCA BARNESCHI

*'He possessed the kind of courage known
as the cold, two o'clock in the morning type.'*

JOHN MCCAFFERY, HEAD OF SOE ITALIAN SECTION

The incredible true story of Dick Mallaby, the first British agent to be inserted into Italy during World War II, whose courage and quick thinking drew him into the heart of some of the most important events in Italian history: the Italian armistice and escape of the king, and the first major German surrender of the war.



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GIANT LEAPS IN HISTORY

Some were hailed as world changing in an instant. Some only years later. But each of these moments – whether for better or worse – has helped shaped the world we know today, writes Nige Tassell



1911

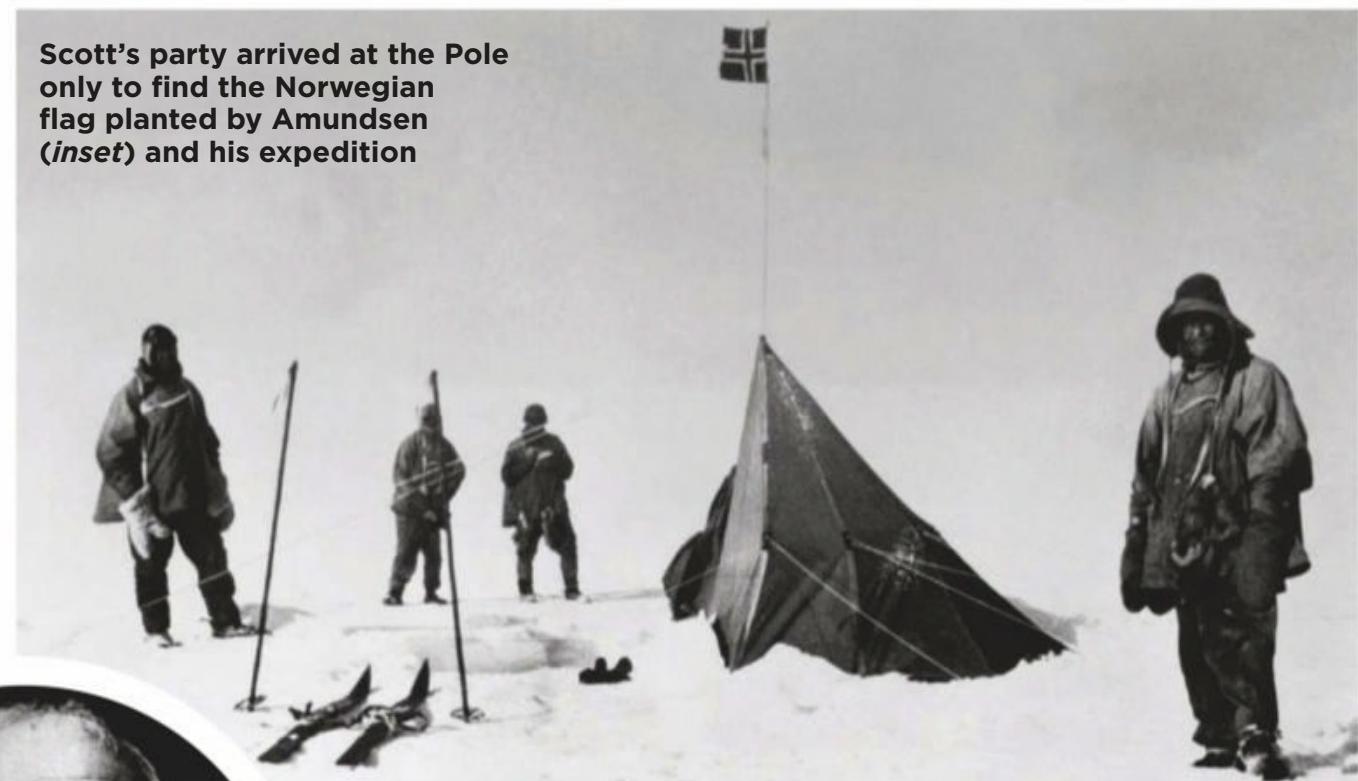
ROALD AMUNDSEN REACHES THE SOUTH POLE

The achievement of Norwegian polar explorer Roald Amundsen, who led the first expedition to reach the South Pole, has been somewhat overshadowed by the tragic tale of Captain Robert Scott. The Englishman's own party, believing themselves to be the first to the Pole, arrived there in January 1912, only to be welcomed by the sight of a Norwegian flag. Amundsen and his men had beaten them by little more than a month. On their retreat, Scott and his four dejected compatriots perished, their bodies not found until the following November.

Following their successful mission, Amundsen's party began their 11-week return journey, arriving in Hobart, Tasmania, in early March. He immediately despatched telegrams to inform the world of their achievement. And the world was impressed. King George V sent a congratulatory telegram, even though Amundsen reached the Pole ahead



Scott's party arrived at the Pole only to find the Norwegian flag planted by Amundsen (inset) and his expedition



"His trip had been notably less eventful than Scott's devastating journey"

of his own subjects, as did former US President Theodore Roosevelt. Having broken the news,

Amundsen then set about supplying the *Daily Chronicle* newspaper in London, which had bought exclusive rights, with the full story of the expedition – even if his had been notably less eventful than Scott's devastating journey.

Some quarters were less than generous with their praise. Sir Clements Markham, the famous

geographer, cast doubt on Amundsen's news, huffily declaring: "We must wait for the truth until the return of the *Terra Nova* [which was Scott's ship]." Ernest Shackleton, no stranger to Antarctica as a member of previous Scott expeditions, didn't share Markham's disdain, announcing that Amundsen's achievement made him "perhaps the greatest polar explorer of today".

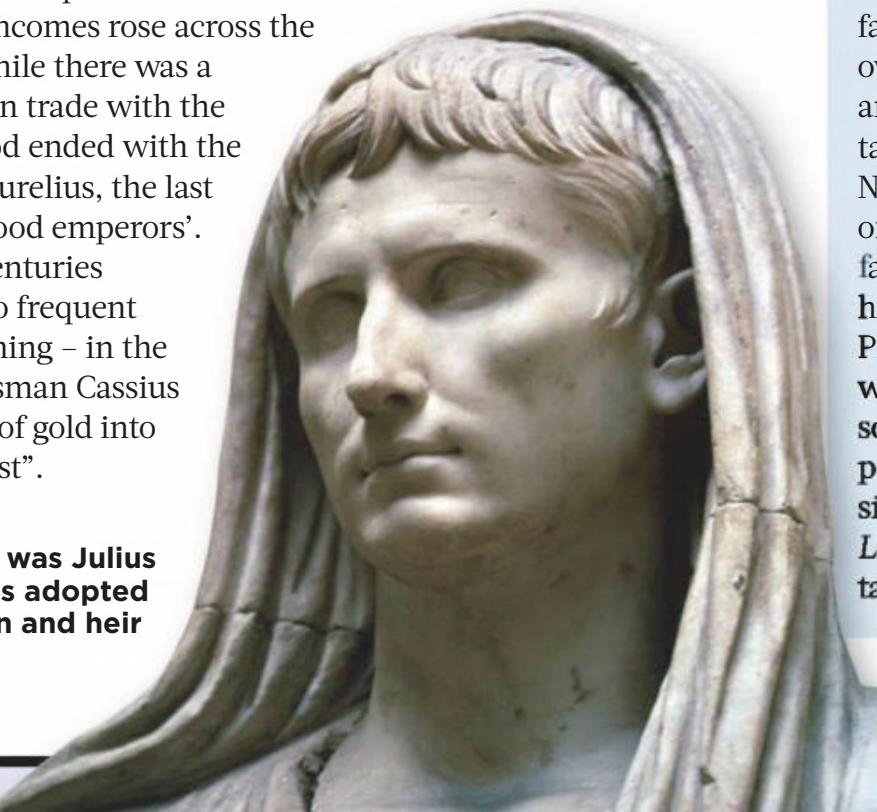
27 BC – AD 180

PAX ROMANA – PEACE REIGNS OVER THE ROMAN EMPIRE

The Pax Romana describes a two-century period when the early Roman Empire was largely defined by peace and stability. Off the back of the Final War of the Roman Republic (32–30 BC), Rome's new emperor, Caesar Augustus, successfully persuaded his subjects that peace was a more attractive option than costly back-to-back wars.

The success of Augustus's worldview – one inherited and upheld by the following 16 emperors – led to a buoyant empire. Incomes rose across the Mediterranean, while there was a substantial uplift in trade with the Far East. The period ended with the death of Marcus Aurelius, the last of the so-called 'good emperors'. The 3rd and 4th centuries AD descended into frequent warfare, transforming – in the words of the statesman Cassius Dio – "a kingdom of gold into one of iron and rust".

Augustus was Julius Caesar's adopted son and heir



1773

THE FIRST PUBLISHED AFRICAN-AMERICAN POET

In 1761, a young girl from West Africa – who had been sold into slavery – was bought by the Wheatley family of Boston. Her new owners named her Phillis and, unusually for the time, taught her to read and write. Noticing Phillis's appreciation of and aptitude for poetry, the family actively encouraged her vocation. When, in 1773, Phillis's anthology *Poems on Various Subjects, Religious and Moral* was published in London (Boston publishers having declined to do so), the response was affirmative. "When we consider them as the productions of a young, untutored African, who wrote them after six months careful study of the English language," trumpeted *The London Magazine*, "we cannot but suppress our admiration for talents so vigorous and lively."

Wheatley was freed shortly after her poems were published



1954

THE FIRST FOUR-MINUTE MILE

Sporting history was made on 6 May 1954, at a modest Oxford running track, when a junior doctor by the name of Roger Bannister did something no other human had ever managed before: to run a mile in under four minutes. Aided by pacemakers Chris Chataway and Chris Brasher, and roared on by a 3,000-strong crowd, Bannister had undertaken very little training prior to the race but forged on to break the tape in a new world record. Not that the large crowd actually heard the official time. The cheers drowned out announcer Norris McWhirter. All they heard, and all they needed to hear, was: "A European record of three..."

**1088**

EUROPE'S FIRST UNIVERSITY OPENS ITS DOORS

The first English-speaking university was the University of Oxford, which began accepting students in 1096. However, by this point the University of Bologna had already been in existence for eight years.

This particular seat of learning was born out of the system of mutual aid societies, or *universitates scholarium*, which operated around the Italian city at the time. Divided



The university wasn't formed with academia in mind – the provision of teaching came later

by nationality, these societies helped to protect foreign students from city laws which declared them to be culpable for the sins, debts and misdemeanours of their fellow countrymen. Each society engaged the services of scholars to teach its members such subjects as law, theology and the arts. When these mutual aid societies decided to group together through common purpose and interests, the larger association they formed was effectively a university.

This collective approach strengthened the position of foreign students in Bologna, who also determined the appointment and pay of their teachers, as well as electing a student committee, known as the Denouncers of Professors, to evaluate teaching methods and content – and, if necessary, recommend fines and other punishments. When it became a royal chartered university in 1158, the students became responsible for professors' salaries.

Still rated as one of the leading Italian academic institutions, the university's alumni over the centuries has included Archbishop of Canterbury Thomas Becket, Renaissance poet Petrarch, astronomer Nicolaus Copernicus, and popes Alexander VI, Innocent IX, Gregory XIII and Gregory XV.

1939

THE SUTTON HOO SHIP-BURIAL IS DISCOVERED

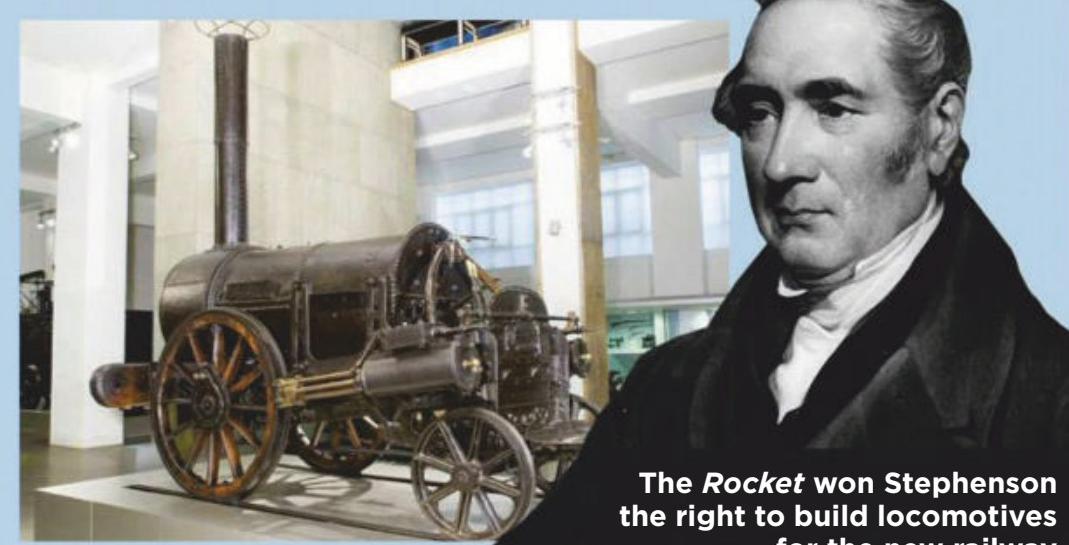
In the late 1930s, self-taught amateur archaeologist Basil Brown accepted an invitation from a widowed landowner who wished to learn the secrets of the mysterious barrows that dotted her land. What was subsequently found in the Suffolk soil hugely expanded what little had, until that point, been known about Anglo-Saxon society. The greatest discovery of all was undoubtedly the remarkably intact ship from around the early 7th century, 80 feet in length. What the ship had been buried with was also of high value and plentiful, including an exceedingly well-preserved ceremonial helmet (right).

The helmet may belong to King Raedwald of East Anglia, who ruled from cAD 599-624

**1829**

STEPHENSON'S ROCKET WINS THE RAINHILL TRIALS

George Stephenson, engineer of the soon-to-open Liverpool and Manchester Railway, needed to prove to its directors that steam locomotives would be the best source of power for the line's trains, rather than using stationary steam engines to pull the trains by cables. The Rainhill Trials, held over a mile of track in Lancashire, were contested by five locomotives, but only one – Stephenson's own Rocket – made it to the finish. Although not the very first steam locomotive, the Rocket's engineering made it the prototype for the locomotives that followed. The rail revolution could begin.



Parks rides on a Montgomery bus on 21 December 1956 – the first day of integrated seating



“Congress would come to call her ‘the mother of the freedom movement’”

1955

ROSA PARKS REFUSES TO GIVE UP HER SEAT

When that white driver stepped back toward us, when he waved his hand and ordered us up and out of our seats, I felt a determination cover my body like a quilt on a winter night.” In the early evening of Thursday 1 December 1955, a seamstress named Rosa Parks boarded a bus in downtown Montgomery, Alabama, on her way home after a long day at work. She took her place in the first row of the ‘colored’ section of the bus, located beyond the seating reserved for white passengers. As the bus continued its journey, it became increasingly busy, with a couple of white passengers being forced to stand as all the seats in their section were taken.

Noticing this, driver James F Blake stopped the bus, walked down the aisle and moved the sign that marked the ‘colored’ section. He then ordered the four African-American passengers in that first row to move further down the bus in order that the standing white

passengers could take those seats. After a brief stand off, three of the African-Americans did as requested. Parks refused. In fact, she simply moved to the window seat of that row. Blake then threatened to call the police. “You may do that” was her calm but defiant response.

Arrested and charged with a violation of Montgomery’s city code, Parks was tried and found guilty the following Monday, by which time the seeds of a city-wide bus boycott had been sown. The boycott would last for a year and became a pivotal moment in the rise of the Civil Rights Movement, with the protest only ending when the US Supreme Court declared that Montgomery’s segregated buses were unconstitutional.

In 1957, despite the campaign’s success, Parks – at least in the short term – didn’t fare too well. Having lost her job as a seamstress, and facing continued harassment, she moved to Detroit in



ABOVE:
Martin Luther King led the Montgomery Bus Boycott

RIGHT: Colvin also refused to move when ordered to



order to find work. Congress would come to call her “the mother of the freedom movement”.

While history remembers Parks, she wasn’t the first Montgomery citizen to refuse to give up her seat to a white passenger. Nine months earlier, 15-year-old Claudette Colvin had made a similar act of defiance (“History had me glued to the seat,” she later said). But, with the unmarried teen becoming pregnant within the year, civil rights leaders chose not to promote her as a figurehead for the movement.

1512

MICHELANGELO REDECORATES THE SISTINE CHAPEL CEILING

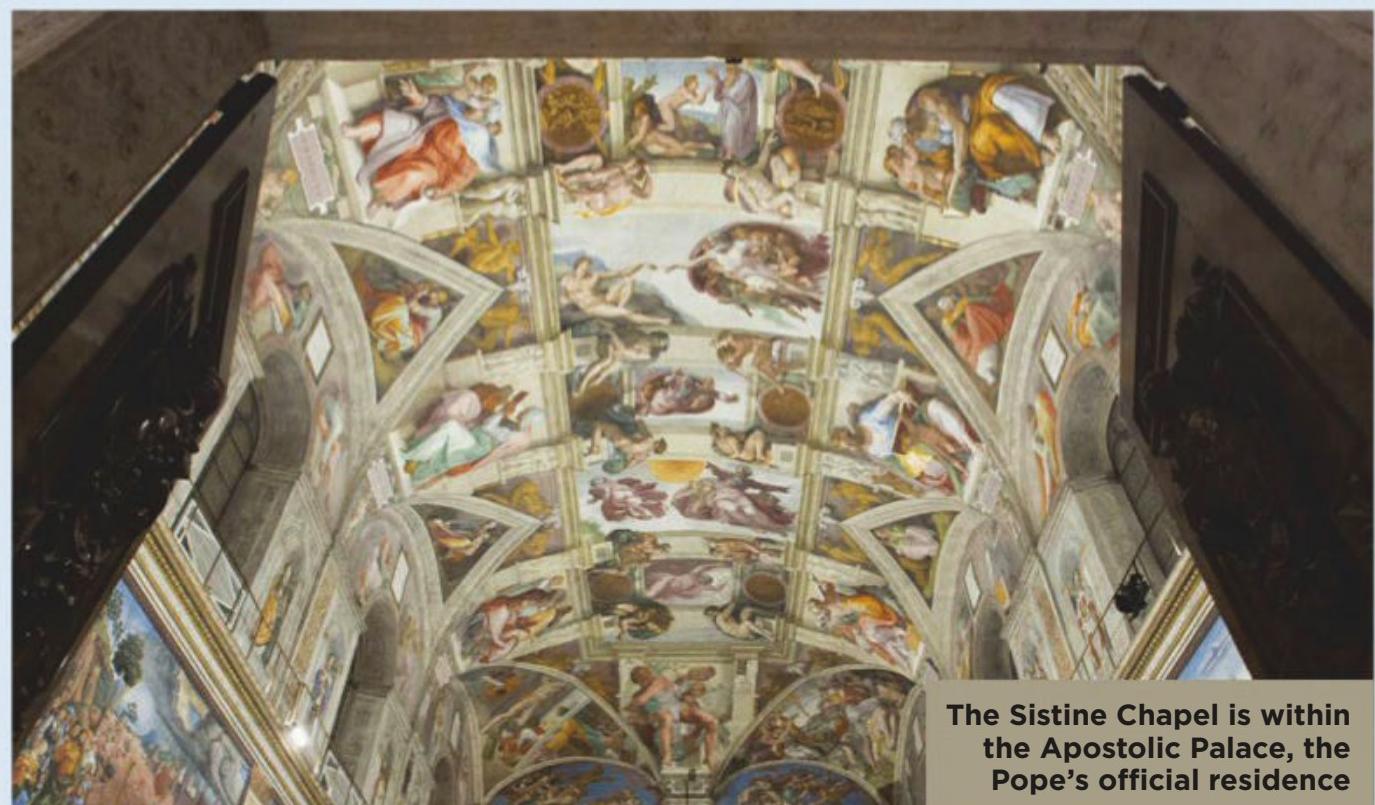
As art criticism goes, it's difficult to imagine more complimentary words than those of the German writer Johann Wolfgang von Goethe when he evaluated Michelangelo's extensive ceiling painting in the chapel of the Apostolic Palace in Vatican City. "Without having seen the Sistine Chapel," Goethe wrote, "one can form no appreciable idea of what one man is capable of achieving."

Commissioned by Pope Julius II and having taken four years to complete, the ceiling is indeed an extraordinary achievement, arguably the high-water mark of Renaissance art. But Michelangelo – better renowned at that point as a sculptor and already engaged in creating sculptures for the tomb of Pope Julius II – initially declined the invitation. Eventually he acquiesced and set about working on a fresco based on nine scenes from the Book of Genesis, one that would eventually feature no fewer than 343 figures.

Working on a self-designed scaffold, Michelangelo didn't, as myth would have it, paint while lying on his back. He stood

as he worked, but the conditions were still difficult and uncomfortable. He later wrote a poem that explained how his body was strained "like a Syrian bow" and that his

loins "into my paunch like levers grind". The everlasting glory of the finished work justified his pain though: "the fruit of squinting brain and eye".



The Sistine Chapel is within the Apostolic Palace, the Pope's official residence

1974

THE TERRACOTTA ARMY IS UNEARTHED

When, one March morning in 1974, farmers in the Chinese province of Shaanxi began digging a well, they had no idea what that day's endeavours would uncover. Their spades encountered an extraordinary haul: life-sized terracotta figurines of soldiers that had been buried to 'protect' the body of China's first emperor, Qin Shi Huang, upon his death in

The army was made to protect Qin Shi Huang in the afterlife



around 210 BC. The scale of what lay beneath was extraordinary, with estimates putting the number of 'soldiers' excavated at around 8,000. But the figures weren't just soldiers. Also buried with the emperor were 130 chariots, 520 horses and 150 cavalry, along with non-military figures such as public officials, musicians and acrobats.

Qin Shi Huang's tomb formed part of a much wider necropolis, one which surveying equipment has been estimated to cover an area of almost 38 square miles – an extraordinary insight into life and death in the Qin dynasty.

1967

THE UK DECRIMINALISES HOMOSEXUALITY

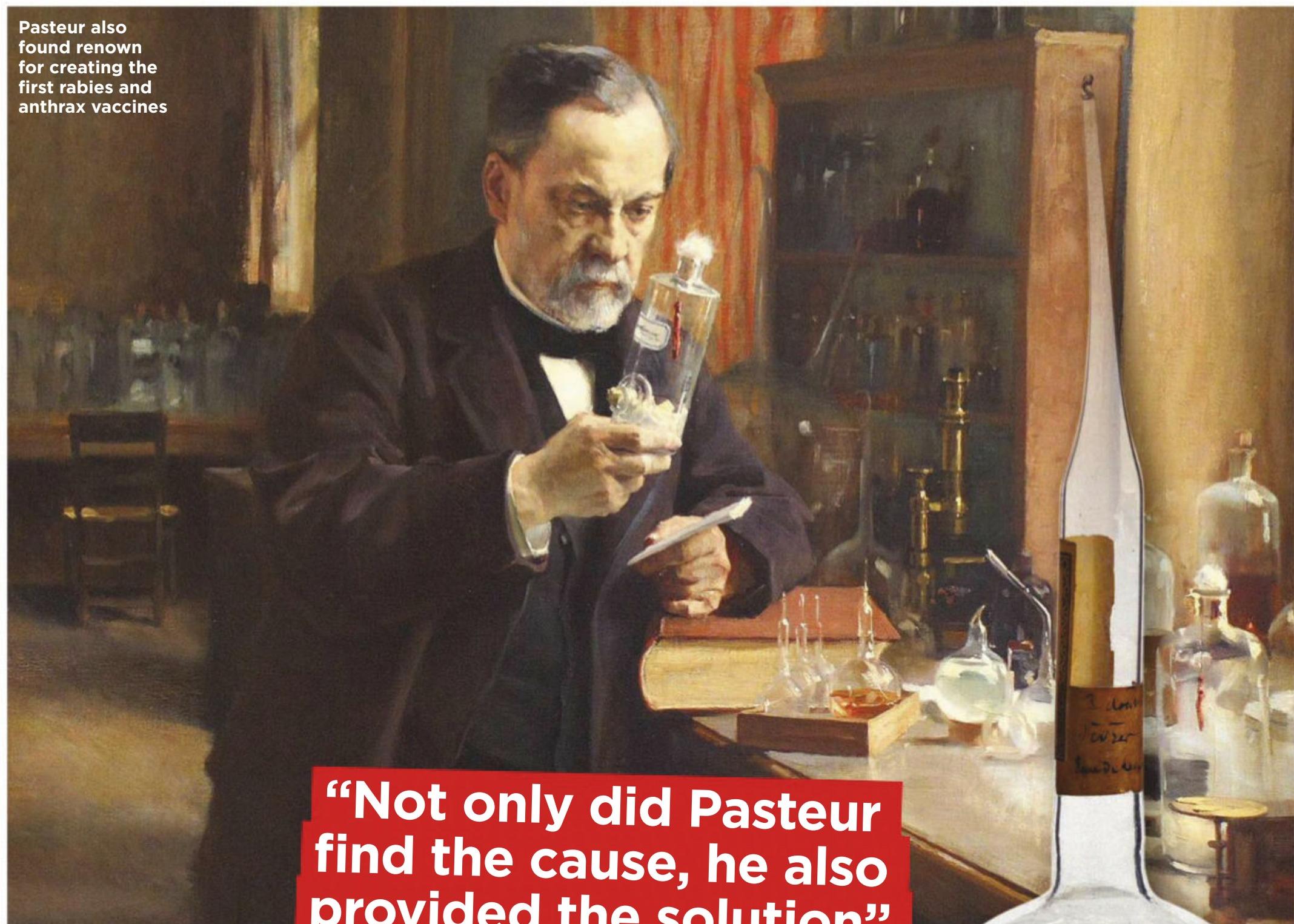
During the so-called Summer of Love, a significant piece of legislation was passed by the House of Commons: the Sexual Offences Act 1967, which decriminalised private sexual acts between two consenting men over the age of 21.

The Act put gay rights both on the statute books and high on the political agenda, but it didn't represent a tide of liberalism. The bill faced great opposition in Parliament. In the House of Lords, the Earl of Dudley voiced his disapproval of gay men. "Prison is much too good a place for them," he said. Nor did the Act offer parity with heterosexual citizens. One of the bill's co-sponsors, the Earl of Arran, said of gay men that "any form of ostentatious behaviour now or in the future, or any form of public flaunting, would be utterly distasteful".

The fight for gay rights continued through PRIDE events



Pasteur also found renown for creating the first rabies and anthrax vaccines



“Not only did Pasteur find the cause, he also provided the solution”

1861

LOUIS PASTEUR PUBLISHES HIS GERM THEORY

Throughout much of the 19th century, the dominant thinking about how disease was transmitted was explained by miasma theory. This explanation held that serious diseases, such as the plague and cholera, weren't passed between people but were the result of some form of air pollution – specifically the apparently poisonous mist produced by decomposing natural matter. Whether you were struck down with a particular disease was thus not determined by who you had interacted or fraternised with, but rather was the result of your location and the levels of bad hygiene encountered within.

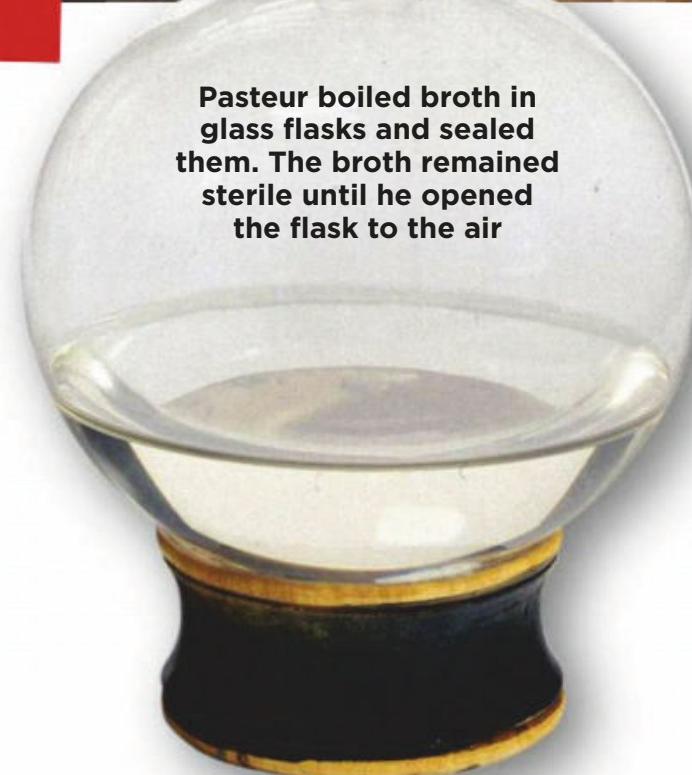
That miasma theory was superseded by another school of thought – germ theory – was largely down to one man: Louis Pasteur. The French biologist believed that microorganisms, (germs) that were too small to be visible were responsible for causing disease. By invading a

host's body and reproducing, these germs increase the chance of disease taking hold.

The theory wasn't Pasteur's own. It had been proposed in the mid-16th century, by Italian physician Girolamo Fracastoro. A couple of hundred years later, it was expanded upon by the Viennese Marcus von Plenciz. He believed that different organisms caused different diseases, but was unable to prove it.

PASTEUR'S PRIME

That was where Pasteur came in. During the mid-19th century, he undertook a series of experiments in an attempt to put the link between germs and disease beyond question. One of them concerned the fermentation of beer and wine; he proved that these didn't spoil as a result of spontaneous generation but because of active bacteria. He discovered the same was true of milk.



Pasteur boiled broth in glass flasks and sealed them. The broth remained sterile until he opened the flask to the air

Not only did Pasteur find the cause, he also provided the solution. The process that would bear his name – pasteurisation – involved heating beverages to a temperature that would kill off microorganisms, thus making them safer to consume and prolonging their shelf life. For this achievement alone, Pasteur has been saluted as the father of microbiology.

1922

HOWARD CARTER OPENS THE TOMB OF TUTANKHAMUN

Can you see anything?" "Yes, wonderful things!" This famous snippet of conversation – between financier Lord Carnarvon and the Egyptologist Howard Carter – announced one of the greatest discoveries in archaeological history: the tomb of the pharaoh Tutankhamun. Here, in Egypt's Valley of the Kings, Carter was peering, by candlelight, through a gap in an excavated doorway, and was met by the sight of extensive golden treasures twinkling back at him. The following three months were spent cataloguing the finds of this antechamber, before work moved into the burial chamber, revealing the sarcophagus of King Tut himself. It proved to be the best-preserved tomb ever found in the Valley of the Kings.

It took Carter ten years to catalogue everything he found in the Boy Pharaoh's tomb



AD 618-907

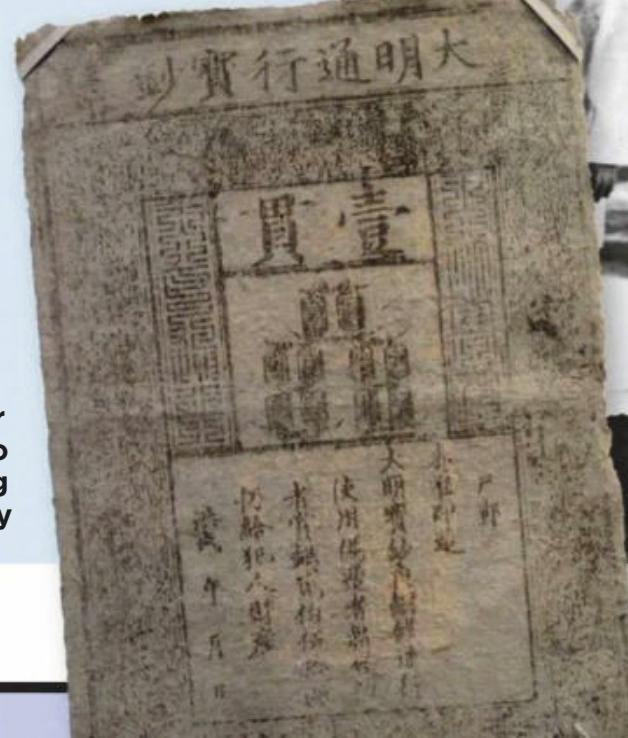
PAPER MONEY IS FIRST USED

The exact date that paper was involved in transactions isn't known, but it occurred during the reign of China's Tang Dynasty. With merchants finding copper coinage heavier the richer they became, an alternative system was devised whereby they would deposit coins with a dependable third party who would issue a note – a credit note, effectively – outlining how much they were holding for the merchant. When copper became harder to come by during the later Song Dynasty, paper transactions became more popular.

Paper money wasn't introduced to Europe until the 17th century, when a Swedish bank began to issue banknotes.

However, within three years, the bank had gone bankrupt, having devalued the currency by over-printing.

This paper note dates to cAD 1375, during the Ming Dynasty



1930

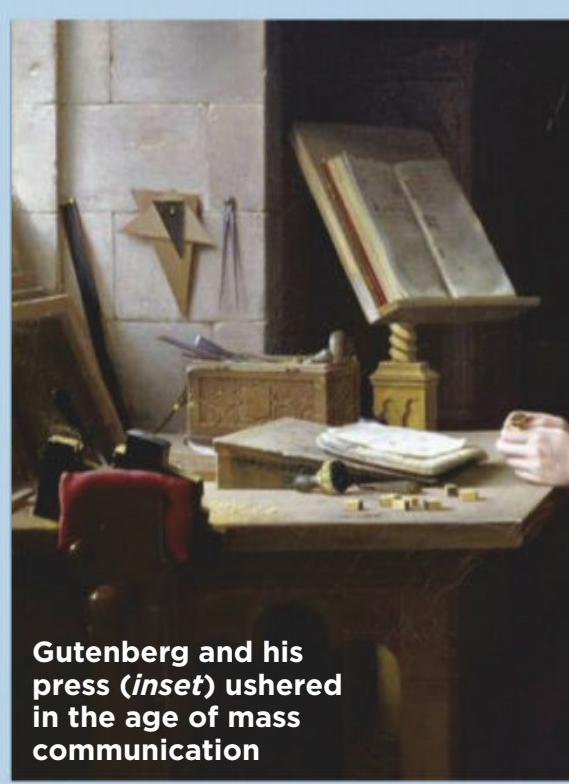
GANDHI'S SALT MARCH

When a slight, bespectacled man named Mahatma Gandhi strode out on a protest march one spring morning in 1930 in the Indian state of Gujarat, the reason for his discontent was clear and precise. He and the 78 protestors accompanying him were voicing their dissent over the tax levied by the British rulers on the Indian population for the purchase of salt. But the march took on a deeper significance: it was the first major example of non-violent direct action against the colonial rule.

The 24-day march gathered in size and number as it made its passage towards the Arabian Sea. By journey's end, Gandhi encouraged civil disobedience by suggesting Indians prepare their own salt, an act that was prohibited by law. The tide was turning. Seventeen years later, Indian independence was declared.

The 240-mile march was in protest at the British Raj's weighty tax on salt





Gutenberg and his press (inset) ushered in the age of mass communication

1439

GUTENBERG'S PRINTING PRESS ROLLS INTO ACTION

More than half a millennium before Tim Berners-Lee unveiled the internet, another inventor had already revolutionised mass communication, rapidly accelerating the gathering and dissemination of knowledge and information.

Johannes Gutenberg was born in Mainz, Germany, apprenticed as a goldsmith, but turned his attention to publishing, with the intention of making copies of the Bible more widely available. "Through it," he declared, "God will spread His Word." To describe the

Gutenberg printing press as profound is a chronic understatement. Until then, printing had been undertaken by hand, using wooden blocks. Gutenberg's press used mechanical movable type, which effectively introduced mass production to the publishing process.

It had a huge effect on European society. Mass production meant more books printed, and thus more people having the chance to read them. The resulting spread of ideas and knowledge empowered those previously denied such access.

1822

THE ROSETTA STONE IS TRANSLATED

Discovered in Egypt in 1799, 23 years elapsed before the Rosetta Stone (inset) was fully deciphered – and with this came the unlocking of hitherto mysterious Egyptian hieroglyphics. The stone (known as a stele) bears inscriptions in three languages: Greek, Egyptian demotic and hieroglyphics. Only when the first two were translated did it become apparent that they were saying the same thing: a decree issued in 196 BC on behalf of Ptolemy V. Thus it was correctly assumed that the hieroglyphics were a third transcription, allowing French scholar Jean-François Champollion to decode them.



1811-12

MARY ANNING MAKES AN HISTORIC DISCOVERY

In geological circles, the name of Mary Anning is sainted. At least, it is now. She was a 19th-century fossil collector and palaeontologist who, on the beaches of Dorset's Jurassic Coast, uncovered the first-ever skeleton of an ichthyosaur, an extinct marine reptile. This was but one of her achievements, but throughout her life she was denied the praise that her science demanded – and which she would have been afforded had she been a man.



Anning was deemed ineligible to join the Geological Society of London

Ptolemy's world map stretches from Europe to Sri Lanka

AD 150 PTOLEMY MAPS OUT THE FUTURE

Even in the 2nd century AD, when much of the world was unexplored, the decision to compile and describe all geographical knowledge was a Herculean task. But Greek mathematician Ptolemy shouldered the task admirably. His eight-volume *Geographia* includes a lengthy gazetteer of locations one country at a time; and a collection of maps, mainly regional in nature. Originally written in Greek, subsequent translations made centuries later into Arabic and Latin meant future explorers were indebted to this pioneering cartographer.



Irish PM Bertie Ahern (left) and British PM Tony Blair (right) were signatories

1998

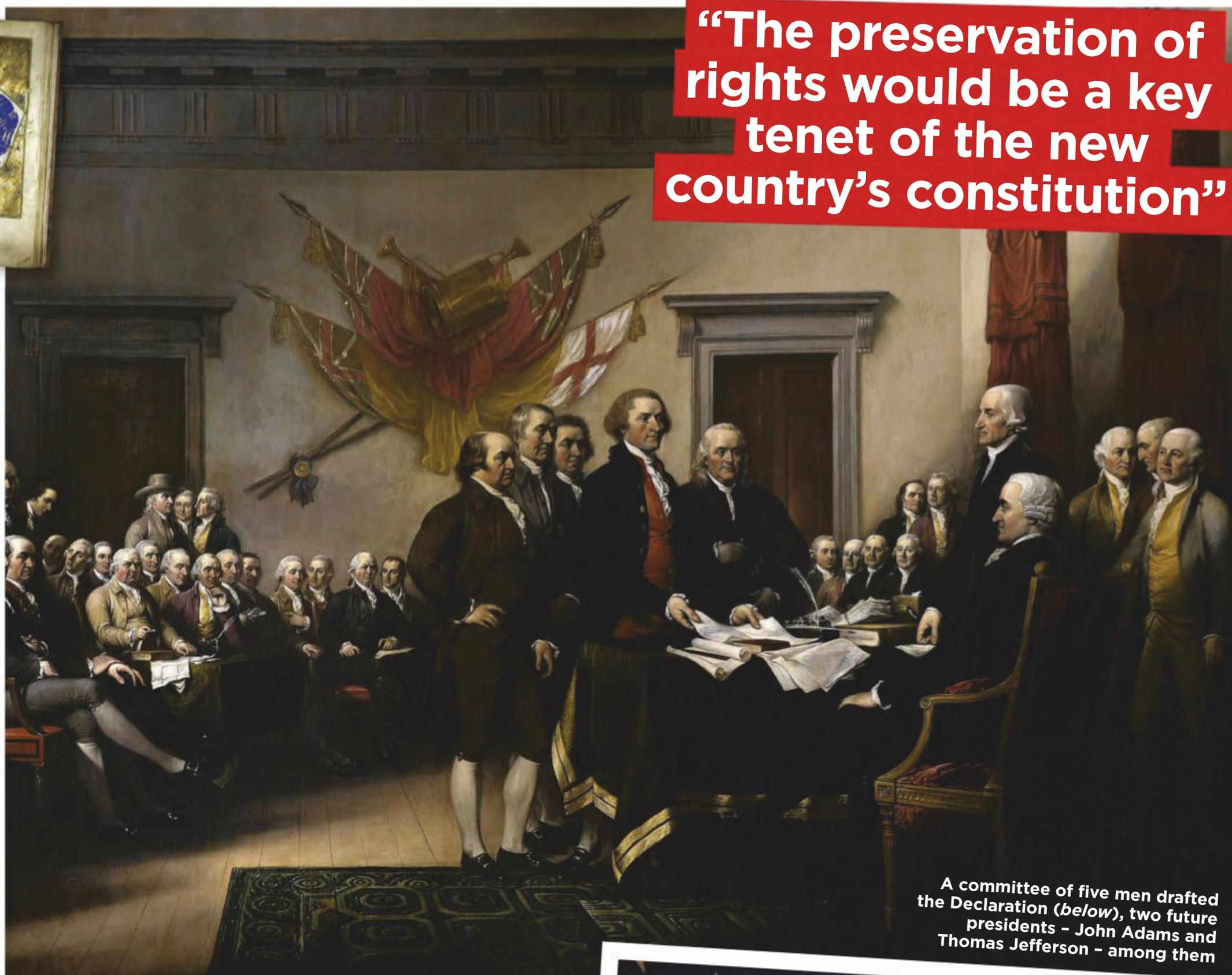
THE GOOD FRIDAY AGREEMENT IS SIGNED

The Good Friday Agreement was a crucial turning point in the ongoing peace process in Northern Ireland. Following the decades of bloody conflict known as The Troubles, the two-part multilateral accord – the first signed by almost all Northern Ireland's political parties, the second by the Irish and British governments – devolved political power to a new Northern Ireland Assembly and ended direct rule from Westminster.

Confirmed by large majorities in referenda held on both sides of the Irish border, the agreement came into force the following year. As a mark of the agreement's significance, its two main architects – David Trimble of the Ulster Unionist Party and

John Hume of the Social Democratic and Labour Party – were jointly awarded the 1998 Nobel Peace Prize "for their efforts to find a peaceful solution to the conflict in Northern Ireland".

“The preservation of rights would be a key tenet of the new country’s constitution”



A committee of five men drafted the Declaration (below), two future presidents – John Adams and Thomas Jefferson – among them

1776

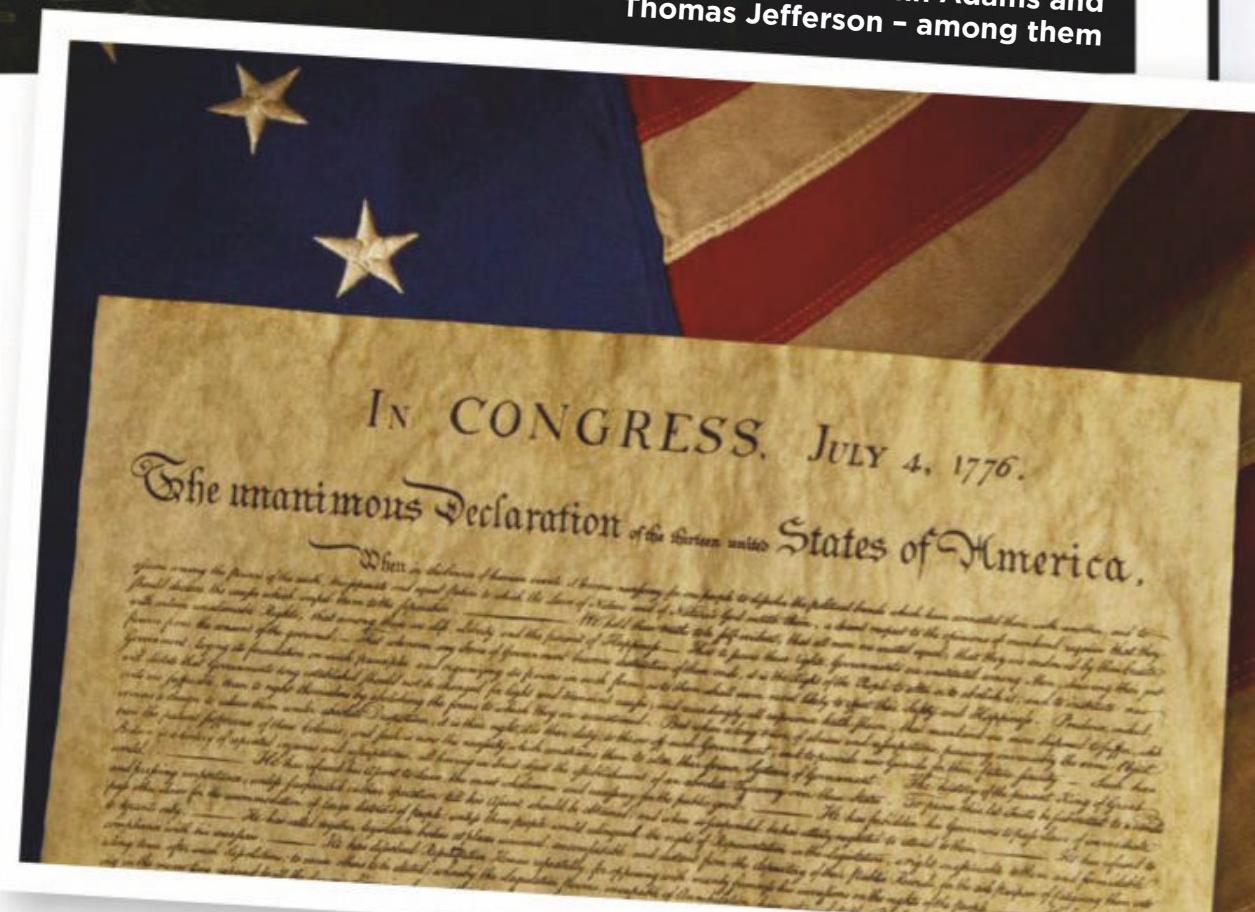
THE UNITED STATES COMMITTS TO HUMAN RIGHTS

We hold these truths to be self-evident, that all men are created equal, that they are endowed by their Creator with certain unalienable Rights, that among these are Life, Liberty and the pursuit of Happiness.”

As the 13 soon-to-be-former British colonies drew up the Declaration of Independence that gave birth to what would become one of the most powerful nations on Earth, they ensured that the preservation of rights would be a key tenet of the new country's constitution. Indeed, US historian Joseph Ellis has suggested the declaration's most famous sentence to be “the most potent and consequential words in American history”. While its application was far from watertight (slavery in the US wasn't

abolished for another 89 years, and US women wouldn't get the vote until 1920), this commitment did offer the blueprint for an advancement of human rights.

Thirteen years later, after its own revolution, France adopted the Declaration of the Rights of Man and of the Citizen, a document which greatly influenced the opening up of democracy across Europe. In 1948, the UN General Assembly passed Resolution 217, otherwise known as the



Universal Declaration of Human Rights, a code confirming an individual's rights, which 50 of its 58 member states had voted to uphold (the eight abstained). The spirit of 1776 lived on.

776 BC

THE FIRST OLYMPICS ARE HELD

Although bearing little resemblance to the scale and the circus that the Olympic Games represent in the 21st century, the very first Olympics, held in the Greek sanctuary of Olympia, set the template for multisport competition for millennia to come. The contest quickly became a pageant of athletic endeavour, triumph and despair, with many events still recognisable today – in particular, running and boxing. There were also some disciplines that have fallen by the wayside: chariot-racing has rather gone out of vogue, while pankration – a strenuous, violent cross-breed of boxing and wrestling – is another now-extinct event.

The Olympics only became a global affair from 1896, after Pierre, Baron de Coubertin, set up the International Olympic Committee and resurrected the Games, which hadn't taken place since the fourth century AD. In the original incarnation, the events were only open to male athletes from Ancient Greece's city-states and colonies, although this wasn't as restrictive as it might appear: at that point, the Greek Empire stretched westwards from modern-day Ukraine to Spain.



Held every four years, the competition became a focus of Greek nationhood, as recognised by the poet Pindar. "Just as there is nothing stronger or more brilliant than the light of the sun," he wrote, "so there is no contest that is greater or more brilliant than the one in Olympia."

So popular did the Olympics become over the ensuing centuries that, by the second century AD, Rome was proudly sending its best men to the Games to attempt to out-muscle and out-pace their Greek counterparts. In 2016, 207 Olympic committees sent athletes to the Rio Games.



LEFT: Olympic runners adorn this 5th century BC vase

FAR LEFT: The Greeks light the first Olympic torch

If they had had the ability to time-travel to Brazil, the organisers of the first Games might have been overwhelmed by how huge their creation had become, but they would have still recognised the essence of their original vision. The timeless pursuit of trying to run faster, jump further and fight harder has never lost its attraction.

1960

THE WORLD'S FIRST ELECTED FEMALE HEAD OF GOVERNMENT TAKES OFFICE



Sirimavo Bandaranaike (left) didn't formally enter the political arena until she was 54. When her husband, the Ceylon Prime Minister Solomon Bandaranaike, was assassinated in 1959, she stood for election the following year and became the first elected female head of government anywhere in the world.

A dutiful wife until that point, Bandaranaike proved to be a formidable politician, serving three terms (1960–65, 1970–77 and 1994–2000) while adhering to a doggedly socialist agenda during some of the country's most tumultuous years. Arguably

her greatest achievement was overseeing the island's transformation from British dominion Ceylon to independent republic Sri Lanka in 1972.

Bandaranaike was 84 when she resigned from her final term of office, and she died just two months later. Her pioneering legacy and inspiration for other female politicians lived on; at the time of her death, her daughter Chandrika Kumaratunga was serving as the country's president.

cAD 206–220

THE INVENTION OF THE COMPASS

Without navigational aids like a map or compass, sailors were reliant on what they could actually see to determine their passage, whether that be earthly landmarks or celestial bodies. However, such techniques were useless on days or nights that were particularly foggy or cloudy. The compass – invented in China during the Han Dynasty and originally known as a 'south-governor' – would come to revolutionise navigation, but its original use was for something else entirely. Originally made from lodestone, a stone of iron that is naturally magnetised, it was first deployed for the purposes of feng shui – for instance, in determining in which direction a new house should face. The compass wasn't used as an instrument of navigation until around the 10th century, during the time of the Song Dynasty.

The Chinese Feng Shui compass doesn't point to north: it indicates south



MAGNA CARTA IS SEALED

During the early years of the 13th century, King John was facing more than a little local difficulty. Considered to be one of the most disastrous kings England had ever known, he had raised taxes on the country's barons in order to finance expensive overseas wars.

The barons revolted, and once they took control of London they forced John's hand. Their demands were articulated and then negotiated over, resulting in the document known the world over as *Magna Carta* – Latin for 'Great Charter'. In June 1215, at Runnymede on the banks of the River Thames, the two sides signed and sealed this charter in an attempt to author an uneasy peace.

Despite the apparent agreement, the mistrust between the King and the rebel barons continued to simmer, effectively rendering the accord redundant. However, the agreement had a more lasting legacy: while responding to specific demands from the barons, *Magna*

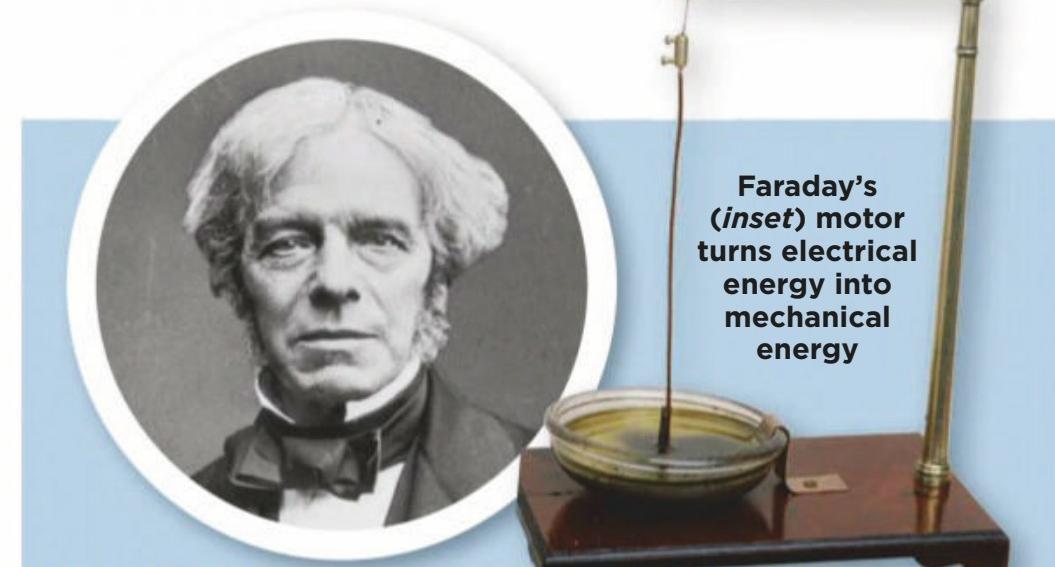
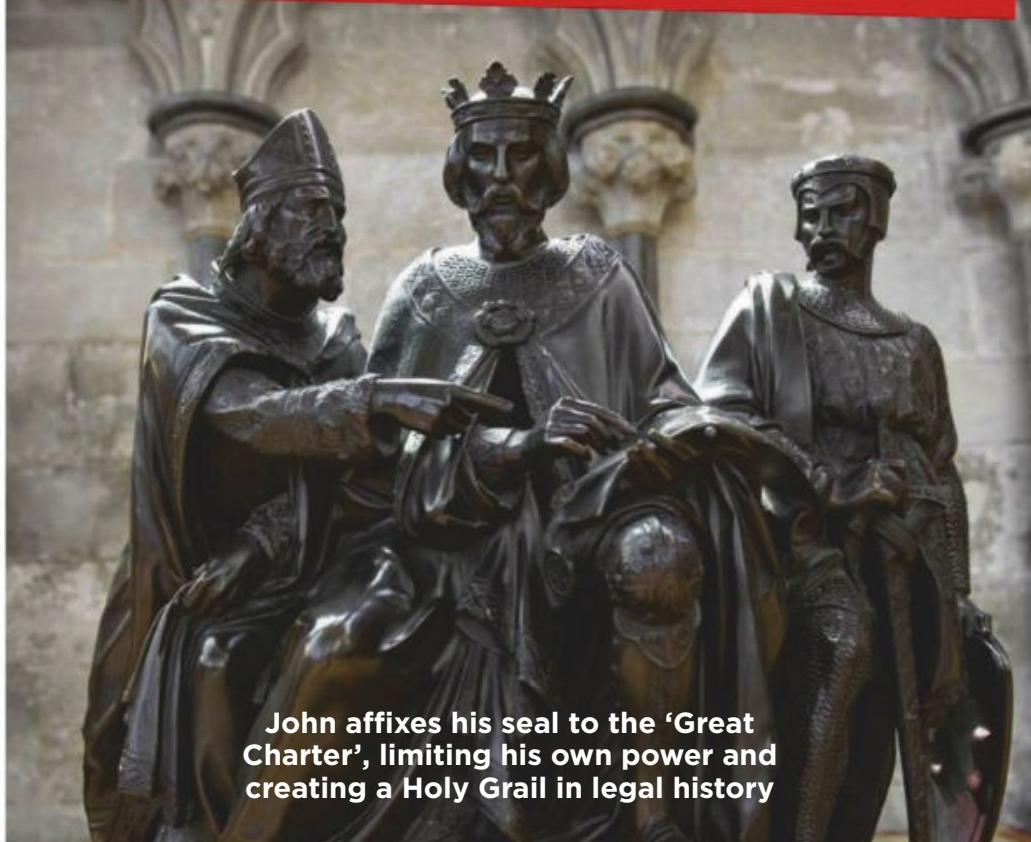
Carta also set out a framework for political and societal reform. Areas that it addressed included the rights of man, limitations on taxation levels, and the protection of Church rights. As such, it has become something of a prototype for written constitutions across the world ever since, in particular influencing the founders of new republics from the United States in the 18th century to the newly independent India in the 20th.

King John's successor, his son Henry III, renewed the charter when he ascended the throne, as did subsequent monarchs – at least until the embryonic English Parliament truly established itself as the legitimate balance on the power of the Crown.

Magna Carta also continues to underpin existing notions of justice on these shores and beyond, most significantly the right to a fair trial. Its words still resonate: "No free man shall be ... imprisoned ... except by the lawful judgment of his peers and by the law of the land."

"Magna Carta has become a prototype for written constitutions"

John affixes his seal to the 'Great Charter', limiting his own power and creating a Holy Grail in legal history



Faraday's (inset) motor turns electrical energy into mechanical energy

1821

FARADAY BUILDS THE FIRST PRIMITIVE ELECTRIC MOTOR

In 1821, a young, self-taught scientist from London called Michael Faraday made a breakthrough that modern civilisation would become dependent upon. Building on the discovery of electromagnetism by Danish physicist Hans Christian Ørsted, Faraday built two instruments that produced what he dubbed 'electromagnetic rotation'. He had, in effect, invented the electric motor, an achievement that had eluded his mentor, the celebrated inventor and chemist Sir Humphry Davy.

Faraday's achievement cannot be overstated, as confirmed by this tribute by the physicist Ernest Rutherford: "When we consider the magnitude and extent of his discoveries and their influence on the progress of science and industry, there is no honour too great to pay to the memory of Faraday, one of the greatest scientific discoverers of all time."

1492

COLUMBUS ARRIVES IN THE NEW WORLD

When, in October 1492, Italian explorer Christopher Columbus, sailing under the flag of the Spanish crown, landed on an island in the Bahamas, the future of the Americas and the Caribbean would never be the same. The find was accidental: Columbus wasn't intending on discovering the New World, he was trying to find a western trade route to the East Indies. Indeed, believing he'd reached his target destination, he named the indigenous population 'Indians'. Columbus moved on to Cuba and Hispaniola, establishing a settlement on the latter (present-day Haiti), putting in process what would become the mass colonisation of the New World.

But while his arrival was a great leap in European exploration, it was to have a devastating impact on the indigenous populations he – and later settlers – encountered. Violence, slavery and disease are among the many sources of controversy associated with the 15th-century explorer.



Columbus's first voyage took him to Cuba and the Bahamas

c2667-2648 BC

THE FIRST PYRAMID IS BUILT

Constructed around 4,700 years ago, the Step Pyramid of Djoser in Saqqara is not only the first of the Egyptian pyramids to be built, but world's oldest intact large-scale stone monument. It was designed as a tomb for the Third Dynasty Pharaoh Djoser, and was completed in his lifetime. Previous large structures in Ancient Egypt consisted of mud bricks; the time and care taken to stack and sculpt the stone suggests that Djoser had substantial finance and resources – as well as a huge workforce – to underpin the project. It became the prototype for the 80 or so pyramids subsequently built across the kingdom.

1961

THE FIRST HUMAN GOES INTO SPACE

"Nothing will stop us. The road to the stars is steep and dangerous. But we're not afraid." Yuri Alekseyevich Gagarin wasn't afraid on that April morning in 1961 when his Vostok spacecraft was launched into the (largely) unknown. More than three years after Laika the dog had been sent out of the Earth's atmosphere, Gagarin completed a single orbit of our planet before, after 108 minutes, returning to Earth and touching down in Russia via parachute. During re-entry, Gagarin whistled the tune *The Motherland Hears, The Motherland Knows*, a song that contains the lines "The motherland hears, the motherland knows, where her son flies up in the sky." For the time being, the Soviet Union was ahead in the Space Race.



Djoser's Step Pyramid became the blueprint for those that followed



One of Gagarin's qualifications was his height: the capsule was tiny, and he was only five feet and two inches tall



Jenner inoculated a local boy with cowpox pus

1796

EDWARD JENNER ADMINISTERS THE FIRST VACCINE

In 1980, smallpox became the first major disease to be eradicated. And it was all down to one 18th-century doctor from rural Gloucestershire. In 1796, using a local boy as his guinea pig, he tested an old piece of folklore: that if you'd caught cowpox, you couldn't then be infected with smallpox. Rubbing cowpox pocks on the boy's arm, Jenner witnessed that, while he did come down with the lesser disease, his patient became immune to the much more dangerous smallpox. Taking its name from *vacca*, the Latin word for 'cow', vaccination transformed global death rates. It's believed the work of no other single person has saved as many lives as that of Jenner.

“The pressure wasn’t just cultural. Across the Eastern Bloc, the Iron Curtain was fraying”

Germans celebrate atop the wall on 12 November 1989



1989

THE FALL OF THE BERLIN WALL

From the first days of its construction in 1961 until its demolition at the turn of the 1990s, the Berlin Wall was a dominating feature of a city divided. It kept the West German-administered West Berlin separate from East Berlin, governed by the German Democratic Republic (aka East Germany). Governments on either side saw the wall differently: in the East, its official title was the Anti-Fascist Protection Rampart. Willy Brandt, the West Berlin mayor, labelled it the “wall of shame”.

Although not impregnable (an estimated 5,000 East Berliners successfully managed to cross into the West), around 20 times that number tried and failed. Thanks to the East Germans’ shoot-to-kill policy, around 200 escapees lost their lives in search of freedom.

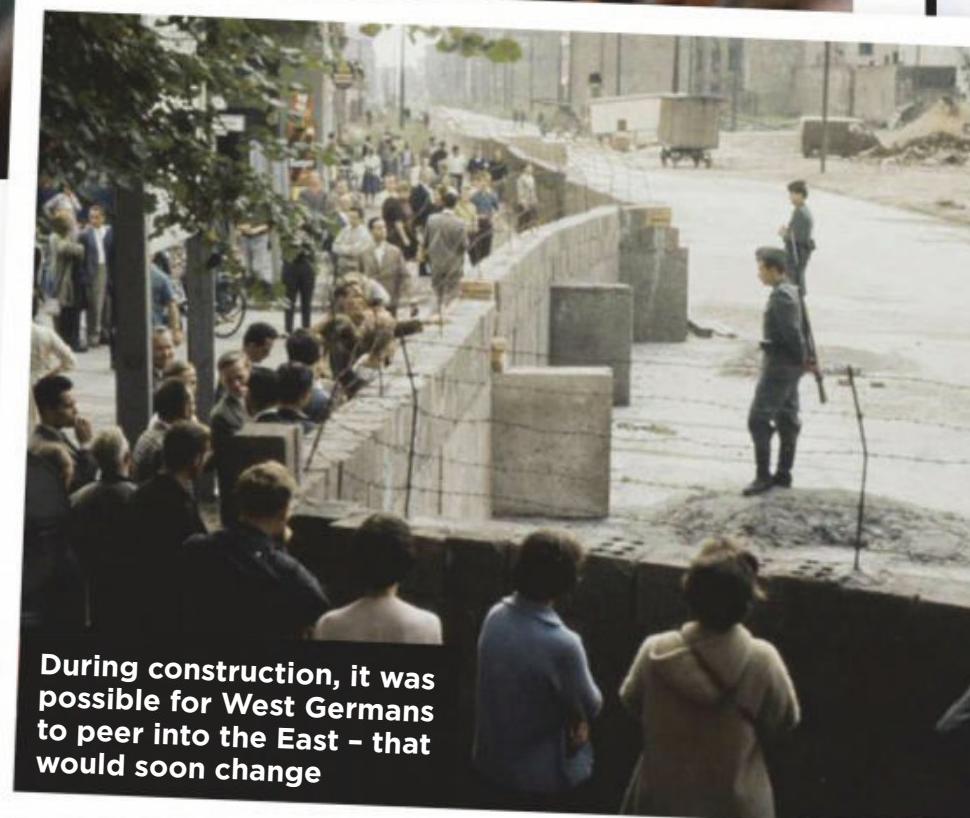
The Cold War began to thaw after Mikhail Gorbachev took power in the Soviet Union in 1985, and a new world order started to emerge. Global politics was coming out of the deep freeze. With it came a heightened discontent that the wall continued to divide Berlin. In 1987, US President Ronald Reagan made a speech at the city’s Brandenburg Gate that contained a direct appeal to the Soviet Premier, a man whose policy of glasnost aimed to open up his country

to outside influence. “General Secretary Gorbachev,” said Reagan, “if you seek peace, if you seek prosperity for the Soviet Union and Eastern Europe, if you seek liberalisation, come here to this gate. Mr Gorbachev, open this gate. Mr Gorbachev, tear down this wall!”

UNDER PRESSURE

Six days earlier, David Bowie had held a concert near to the wall in West Berlin. The music had been heard on the other side of the divide, prompting anti-wall rioting. The following summer, in an apparent attempt to assuage and placate its younger citizens, the East German government allowed Bruce Springsteen to play a show in East Berlin. Speaking in German, Springsteen announced that he held “the hope that one day all the barriers will be torn down”.

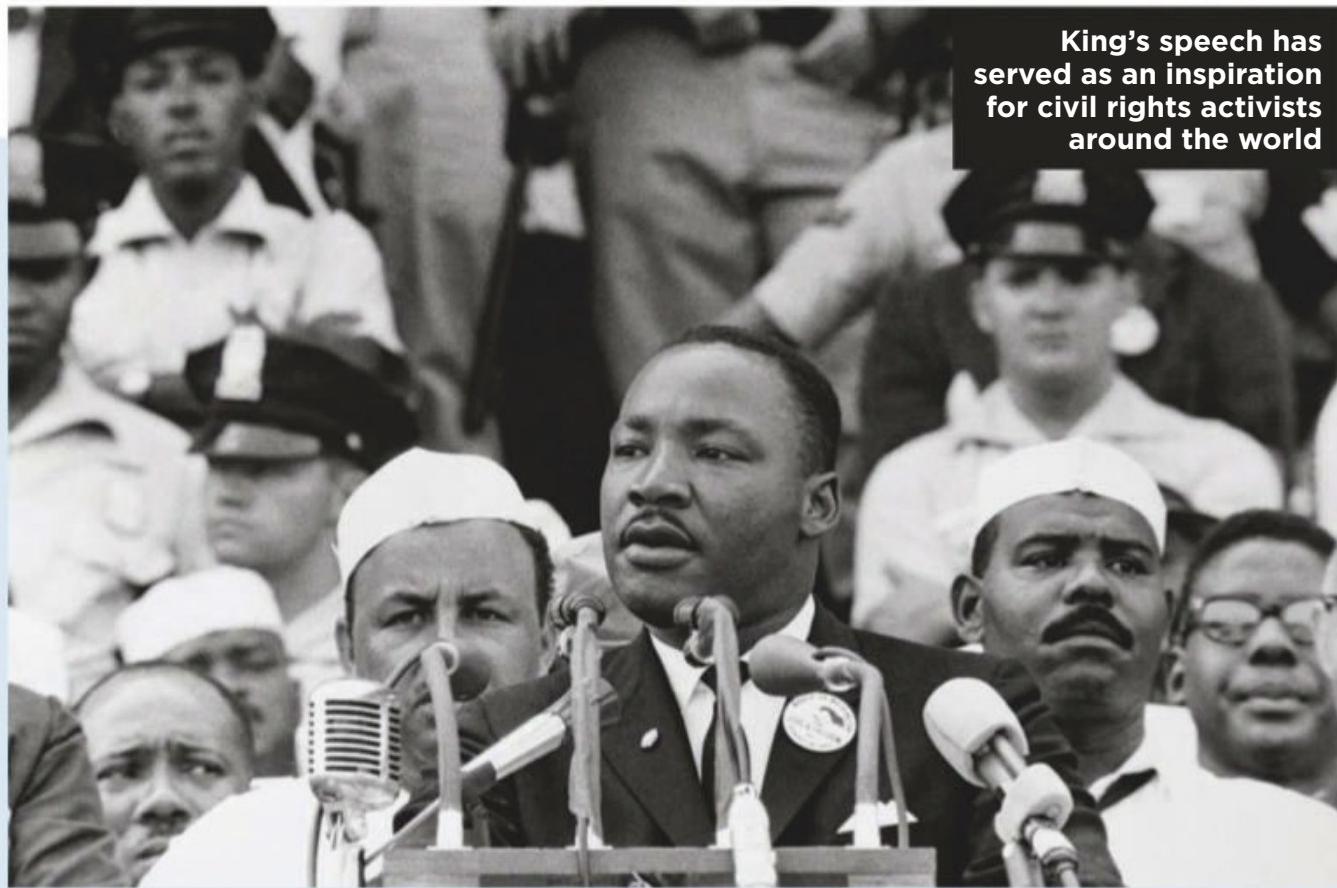
The pressure wasn’t just cultural. Across the Eastern Bloc, the Iron Curtain was fraying. Along with Gorbachev’s reforms in the USSR, the 1989 Polish elections had ousted its communist regime, while the Hungarian government started pulling down fences along its border with Austria. This prompted many East Germans to leave for the West via Hungary and, later, via Czechoslovakia.



During construction, it was possible for West Germans to peer into the East – that would soon change

To stem the tide, on 9 November 1989, East Germany made an abrupt announcement: that the gates of the wall’s border crossings – hitherto only accessible to foreigners – would be flung open for all to pass through that very evening.

That night was one of the most joyous in German history, with West Berliners climbing on top of the wall to mingle with those from the eastern side of the city. The guards had put down their guns and the most visible division between Eastern and Western Europe was now rendered meaningless. While formal demolition didn’t commence until the following year, citizens on both sides of the divide hacked away at the structure, both for souvenirs and for deeply symbolic reasons. The process reached its denouement in 1990 when Germany was formally reunified after 45 years.



King's speech has served as an inspiration for civil rights activists around the world

1963

MARTIN LUTHER KING'S "I HAVE A DREAM" SPEECH

It was one of the iconic speeches of the 20th century, one that saw how – as the writer Jon Meacham has noted – “with a single phrase, Martin Luther King Jr joined Jefferson and Lincoln in the ranks of men who have shaped modern America”. Delivered before an estimated crowd of 250,000 at the March On Washington For Jobs And Freedom in August 1963, the speech defined an era in US history. It was a poetically worded, brilliantly delivered demand for long-overdue freedom and equality. King never got to see his dream come true: he was assassinated in Memphis, Tennessee, on 4 April 1968. A week later, the Civil Rights Act 1968, which had been making slow progress in Congress, was rushed through the legislature and immediately signed into law by President Lyndon Johnson.



Sheppard and her fellow suffragists are honoured with a memorial in Christchurch

1893

NEW ZEALAND GIVES WOMEN THE VOTE

During the 1990s, a new face replaced that of Queen Elizabeth II on the New Zealand ten-dollar note. It was that of another Englishwoman, albeit one who spent almost all her adult life in the southern hemisphere. This woman was Kate Sheppard, a figure largely

unknown in the country of her birth, but whose actions and influence were felt right across the world.

Sheppard was the leading suffragist in New Zealand, a woman whose reasoned public speaking and writings – in publications such as *Ten Reasons Why the Women of New Zealand Should Vote* – successfully swung opinion towards universal suffrage. After a series of mass petitions had been collected by Sheppard and her fellow campaigners, on 19 September 1893, New Zealand governor Lord Glasgow signed the new Electoral Act into law.

With neither the UK nor the US extending the vote to women until the other side of World War I, New Zealand blazed the trail, becoming the first self-governing nation to allow women to vote in parliamentary elections.



Perry meets with Japanese officials in Yokohama

1854

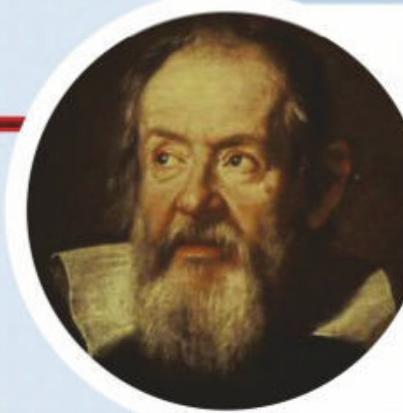
JAPAN RENEWS TRADE WITH THE WEST

After two centuries of isolation, Japan warmed to the idea of opening its borders in 1853. With the US and China already enjoying extensive trade, US Commodore Matthew Perry sailed to Japan with an four-strong fleet and, endowed with “full and discretionary powers” by his Secretary of State, employed intimidatory tactics to get Japanese agreement. Such gunboat diplomacy worked. Perry returned the following year, whereupon Japan signed the Treaty of Kanagawa, which opened its ports to US ships.



1610

GALILEO SPOTS JUPITER'S MOONS



By the 17th century, there was a general acceptance that Earth wasn't flat, but a sphere. But the Aristotelian idea that our planet was the centre of the universe, around which all other planets revolved, still held sway. Then Italian Galileo Galilei (inset) came along, brandishing his homemade telescope. Through it, he observed that Jupiter is orbited by four moons, just as Earth is orbited by our solitary Moon. The conclusion he drew, which encountered great scepticism, was that the planets revolved around the Sun.

1898

THE CURIES DISCOVER POLONIUM AND RADIUM

Marie Curie's contribution to science is huge. In 1903, she became the first woman to be awarded a Nobel Prize; eight years later, she won her second. Marie (inset)

shared the first with her husband Pierre, with whom she undertook pioneering work in radioactivity, and Antoine Henri Becquerel. In 1898, the Curies discovered two new elements – polonium and radium, both of which are more radioactive than uranium.

Marie's correct assumption was that radioactive rays could treat, reduce and even eradicate tumours, and her name remains synonymous with cancer treatment today.

"Mandela spent 18 years in a damp cell with a straw mat for a bed"

Supporters crowd to see Mandela during a 1994 election rally in Durban



1994

NELSON MANDELA BECOMES SOUTH AFRICA'S FIRST BLACK PRESIDENT

Our country has arrived at a decision. Among all the parties that contested the elections, the overwhelming majority of South Africans have mandated the African National Congress to lead our country into the future. The South Africa we have struggled for, in which all our people – be they African, Coloured, Indian or White – regard themselves as citizens of one nation is at hand."

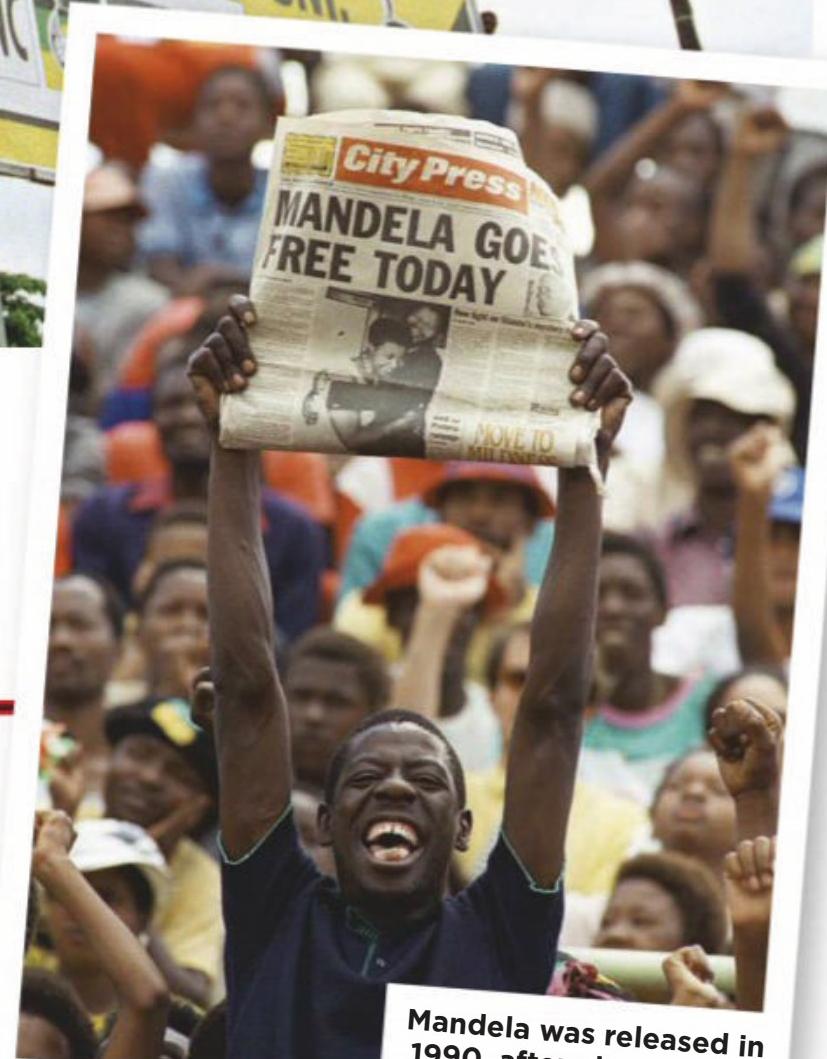
On 10 May 1994 – four years, two months and 29 days after taking slow, deliberate steps to freedom on his release from jail, where he had been held for nearly three decades – Nelson Rolihlahla Mandela was sworn in as the first black president in South Africa's history, after a life dedicated to fighting the Apartheid system.

Initially arrested, charged, tried and jailed in 1962 for inciting workers' strikes and leaving the country without permission, Mandela was charged the following year with sabotage and conspiracy to violently overthrow the government. At his trial in Rivonia, Mandela delivered an extraordinary, three-hour speech from the dock. It closed with a chilling confirmation of his commitment to the cause

of black majority rule. "I have cherished the ideal of a democratic and free society in which all people will live together in harmony," he told the packed courtroom. "It is an ideal for which I am prepared to die."

The starkness of his words resonated around the world, with even the United Nations calling for Mandela and his fellow accused to be released. Instead, they were found guilty and incarcerated; Mandela would spend 18 of his 27 prison years on the infamous Robben Island, in a damp cell with a straw mat for a bed. All the while, the global clamour for his release continued. The Special AKA released the anthem 'Free Nelson Mandela', while the occasion of his 70th birthday in 1988 was marked by a concert at Wembley that drew an estimated global audience of 600 million.

Mandela had been offered his release in 1985 in return for denouncing violence as a political tool; he refused to leave jail while the African National Congress (ANC) political party remained banned. When FW de Klerk became



Mandela was released in 1990, after almost three decades of incarceration

president four years later, an unconditional release became a very real prospect. On his release in 1990, Mandela began negotiations for a multiracial general election. The electorate would eventually return him as president, with the ANC taking 62 per cent of the vote.

This was a transformative era in what had been one of the world's most conflicted countries – a land where black citizens had been denied a voice at the polling booth for generations. The last paragraph of Mandela's "I am prepared to die" speech is now written on the wall of South Africa's Constitutional Court building in Johannesburg.

The Longmen Grottoes
– home to some of
China's most famous
Buddhist art – received
patronage under Wu

**“Wu was a strong
supporter of
meritocratic success
over hereditary privilege”**

AD 690

CHINA'S ONLY FEMALE EMPEROR TAKES CONTROL

If the accounts of Wu Zetian's life are to be believed, hers is a story of raw, naked political ambition that respected few moral boundaries. To what extent these chronicles are historically accurate, though, has to be measured through the prism of male observers considering the behaviour and impact of the only female emperor in Chinese history. To reach those lofty heights surely required a well-defined ruthless streak on her part, but she was often portrayed as the devil incarnate.

What isn't disputed is the upward passage that Wu's life took, how she scaled social strata to become the most powerful individual across the empire. Well-born and educated, she joined the Imperial household as a low-ranking concubine with domestic chores, far removed from real power. One day she managed to catch Emperor Taizong's eye – apparently while

changing his bedsheets. Upon his death in AD 649, she was sent to a Buddhist nunnery.

Wu was having none of that. She escaped and attempted to regain her position in the Imperial court. One particular unsavoury story suggests that she murdered her own baby and blamed it on the new Empress, the wife of Taizong's successor (his ninth son, Gaozong). When the Empress was exiled, Wu took her place, as Gaozong's wife. Another story has her ordering the limbs of her rivals to be cut off, before they were left to drown in vats of wine.

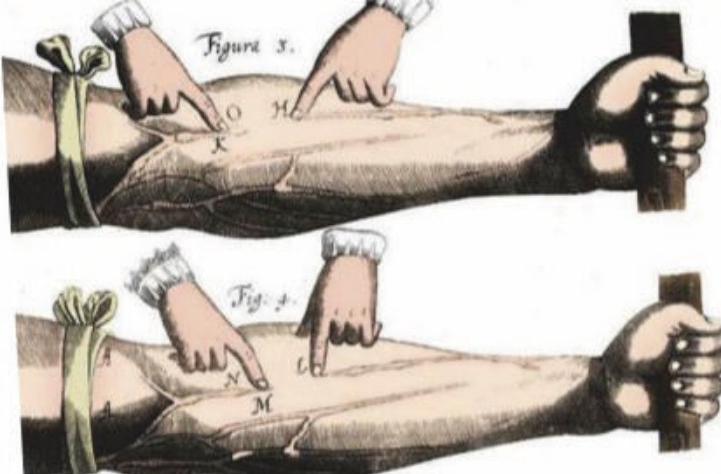
When Gaozong suffered a severe stroke in AD 660, Wu became the court's administrator – a highly powerful position. Gaozong died in AD 683, whereupon the couple's son Zhongzong became emperor, although he reigned for just two months before Wu demoted him and sent him into exile. Zhongzong was succeeded by

Wu is recorded as being ruthless to her enemies, though her deeds show a certain benevolence

his brother Ruizong – he lasted six years before suffering the same fate as his sibling.

Wu then assumed power for herself, ruling as Empress Regnant for the next 15 years until AD 705. For someone so apparently ruthless, Wu's impact on Chinese society was significant. China greatly expanded into Central Asia during her rule, while she also declared Buddhism to be the state religion, replacing Daoism.

A strong supporter of meritocratic success over hereditary privilege, Wu built up the Chinese education system to help facilitate this (the fact that she could read and write was one of the attributes that initially attracted Taizong to her), and oversaw a substantial growth in China's agricultural output. Despite these achievements, it's her supposedly cold-blooded ways that history remembers.



1628

WILLIAM HARVEY MAKES A BLOODY REVELATION

In 1628, in the pages of the snappily titled *Exercitatio Anatomica de Motu Cordis et Sanguinis in Animalibus*, English physician William Harvey explained the purpose of the one-way valves found in the cardiovascular system: that they are evidence that the human heart propels blood around the body in a circulatory fashion. A handful of other medical scientists had made the observation before Harvey, but it was the depth and detail of his description of the process – gained from extensive dissections of animals – that ensured the kudos came his way, albeit with a delay of around 20 years.

De Motu Cordis featured illustrations of Harvey's illuminating experiments

1792

MARY WOLLSTONECRAFT PUBLISHES SEMINAL BOOK ON WOMEN'S RIGHTS

"Would men but generously snap our chains, and be content with rational fellowship instead of slavish obedience, they would find us more observant daughters, more affectionate sisters, more faithful wives, more reasonable mothers – in a word, better citizens."

The most famous work of proto-feminist and author Mary Wollstonecraft, *A Vindication of the Rights of Woman*, was a radical manifesto for its time, published in 1792, five years before her tragically early death at the age of 38. The importance of both Wollstonecraft and her writings was damaged by posthumous accounts of her premarital affairs and her illegitimate first daughter, but she was later hailed as a guiding spirit for the suffragist movement at the turn of the 20th century.

Wollstonecraft's reputation was almost destroyed by a posthumous biography



AD 723

A BUDDHIST MONK HARNESES TIME

We might regard it as a mechanical clock, but its inventor chose to name it a 'Water-Driven Spherical Birds-Eye-View Map Of The Heavens'. An eighth-century Chinese-Buddhist monk called I-Hsing was that inventor, a keen mathematician and astronomer who aimed to combine the two disciplines with his creation. As its name suggests, this water-powered clock was designed to trace celestial activity and proved to be a relatively accurate timepiece, accurate to within 15 minutes a day. However, over time, the water began to corrode its metal components and, on sub-zero days, would freeze. More than 200 years later, another Chinese astronomer, Zhang Sixun, rebuilt the device using mercury instead.

1833

BRITAIN PASSES THE ABOLITION OF SLAVERY ACT

There's some irony that the country that was once most active in the slave trade was also the one that led the campaign to outlaw slavery and servitude. In the last decade of the 18th century, 80 per cent of Britain's foreign income came from the triangular route that the slave trade had established – British goods going to Africa to buy slaves; slaves being transported to the West Indies; cotton, sugar and tobacco coming back to Blighty. But this was also a time when abolitionist sentiment was starting to percolate.

The impetus came from the anti-slavery committees of the Quakers, who presented a petition to Parliament in the early 1780s. A few years later, MP William Wilberforce was asked to make representations for the cause from his seat in the House of Commons. Researching further into the subject, he declared that he "thought himself unequal to the task allotted to him, but yet would not positively decline it". In fact, his name would be forever synonymous with abolitionism.

In 1807, the Slave Trade Act was passed by Parliament, prohibiting the buying and selling of slaves on British soil, but not slavery itself. That came 26 years later, in 1833, when the Abolition of Slavery Act became

law. Certain caveats ensured the legislation wasn't as absolute as it might have been. Not only were certain parts of the British Empire exempt, but only slaves aged six and under were officially freed. The remainder were classified as 'apprentices', with their emancipation staggered and delayed (although this clause was removed five years later). Slave owners were also paid generous amounts for the loss of their 'property'. Twenty million pounds was set aside

to recompense them, a figure equating to 40 per cent of Britain's annual income at the time.

However flawed, the passing of the Act effectively freed around 800,000 slaves across the empire. It also marked an acceleration of worldwide anti-slavery feeling, though US President Abraham Lincoln wouldn't make his Emancipation Proclamation for another 30 years.



West Indian slaves celebrate freedom in 1833. William Wilberforce (inset) was instrumental in pushing the case for abolition



1928

PENICILLIN IS DISCOVERED

When I woke up just after dawn on 28 September 1928," Alexander Fleming later admitted, "I certainly didn't plan to revolutionise all medicine by discovering the world's first antibiotic, or bacteria killer. But I suppose that was exactly what I did." The Scottish microbiologist was only thinking about his impending holiday when he absentmindedly left an amount of *Staphylococcus* bacteria on a tray in his lab. On his return, he noticed that a patch of mould had stopped the bacteria's spread. He realised that a substance in the mould, which Fleming called penicillin, had antibiotic qualities that could stem the spread of chronic infections. The number of lives subsequently saved are countless.



1869

DNA IS IDENTIFIED

When the Swiss biochemist Friedrich Miescher embarked on a pursuit to isolate the protein found in white blood cells, he instead encountered a substance with properties very unlike those of the protein he was researching. He had effected the first purification of what he named 'nuclein' – what we now know as deoxyribonucleic acid, or DNA.

Miescher believed his discovery to be an important one, although he remained unsure as to the exact function of nuclein. Initially, the scientific community didn't take too much notice of it either, and it wasn't until the last decade of the 19th century that nuclein's hereditary properties began to be understood.

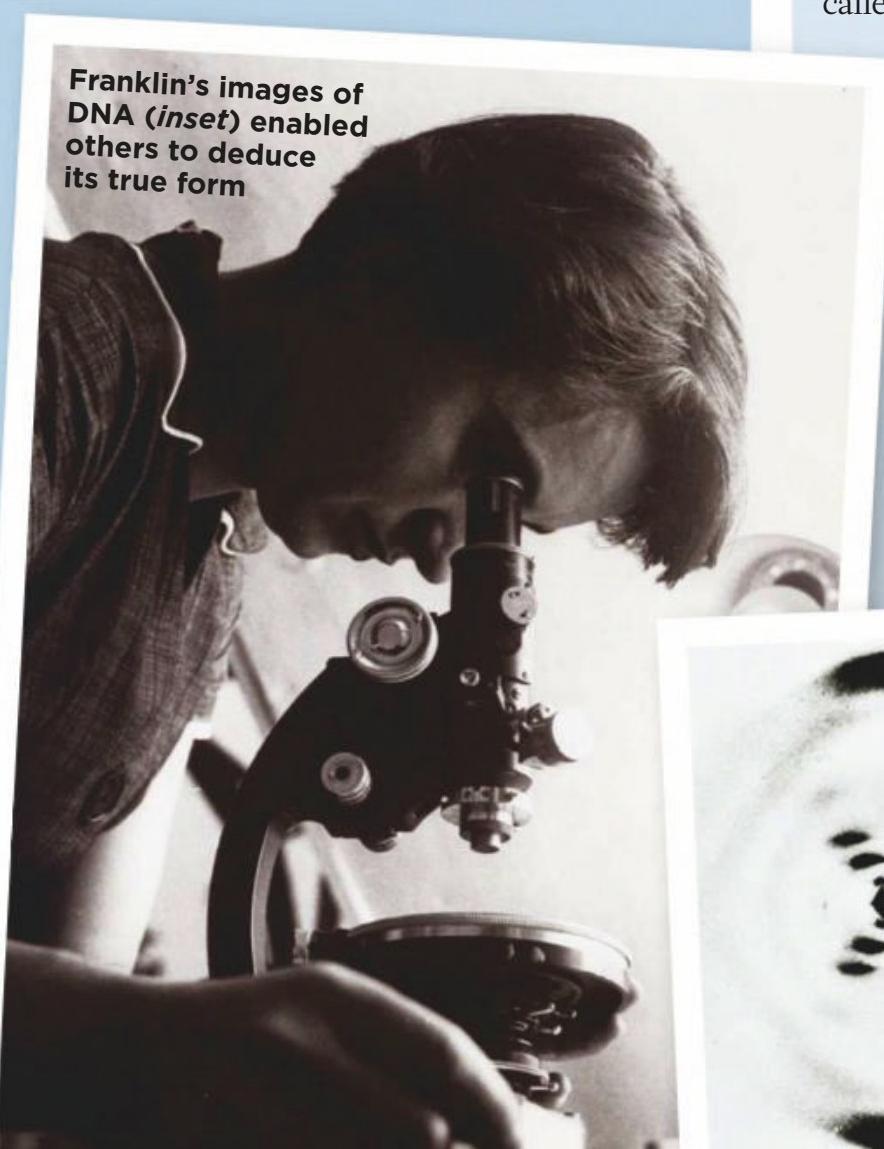
The German biochemist Albrecht Kossel successfully isolated and named the five compounds that provide molecular structure to DNA and in 1910 was awarded the Nobel Prize for Physiology or Medicine for his pioneering work in cell biology. Other scientists picked up the DNA baton. By the 1940s, the Canadian-American physician Oswald Avery and his colleagues identified that DNA was "the transforming principle" in genetics.

Their work inspired others to research further and deeper. In 1950, Erwin Chargaff made the discovery that DNA was species-specific, and two years later Rosalind Franklin advanced our understanding further still. Her

Fleming in his lab and, (inset), the famous mould. Rarely is going on holiday so productive

high-resolution photographs of DNA were extraordinary, and pushed Franklin towards a belief that DNA took a helical structure.

However, she was beaten to confirming the double helix structure of DNA by James Watson and Francis Crick in 1953. Along with their colleague Maurice Wilkins, they won the Nobel Prize for Physiology or Medicine. Despite her photographs being key to their breakthrough, Franklin wasn't saluted with a share of the honour. Nor was the name of Friedrich Miescher remembered, either.



1991

THE WORLD WIDE WEB IS LAUNCHED

In 1989, after noticing that the large number of global scientists he was working with at CERN (the large particle physics laboratory near Geneva, Switzerland) were having difficulty sharing information easily, Oxford graduate and software engineer Tim Berners-Lee developed an idea that would revolutionise the way we communicate. His proposal was for a "hypertext project" called "WorldWideWeb", which would enable "browsers" to view a "web" of "hypertext documents", rather than logging onto a different computer every time they wanted to access new information.

Essentially, what Berners-Lee was suggesting was an application that uses the Internet (conceived in the late 1960s) to share information such as videos and text. By the end of 1990, the first web page had been served on the open Internet, and in 1991, this new web community was made available to people outside of

CERN. The World Wide Web had been spun.

Though Newton often spoke of being inspired by a falling apple, the incident is likely to be a fiction

507 BC

DEMOCRACY IS CONCEIVED IN ATHENS

If Athens is the cradle of democracy, then Cleisthenes was its midwife. Despite being born into a less-than-democratic lineage (his maternal grandfather was the tyrant Cleisthenes of Sicyon), Cleisthenes the lawgiver was the architect of a new system of government, one that valued equality over patronage. Having displaced a pro-Spartan oligarchy, Cleisthenes undertook a radical reshaping of the Athenian constitution. He sought to break up entrenched alliances and to reduce the power of aristocratic families, attempting to replace the status quo with a pan-Athenian worldview that united all strata of society. Under this mindset, the three regions of Attica (the peninsula that projects into the Aegean Sea) worked together to run the city, cutting across previous notions of clan. But while all citizens enjoyed equal rights, there was a glass ceiling. Only men were deemed to be citizens.

1687

ISAAC NEWTON ANNOUNCES HIS FINDINGS ABOUT GRAVITY

In 1687, a prolific British mathematician and astronomer called Isaac Newton published a book that would shape thinking about the cosmos for the next 200-plus years. His *Philosophiae Naturalis Principia Mathematica* (aka Mathematical Principles of Natural Philosophy) set out his thoughts about gravity, tides and the movement of planets, all but confirming the heliocentric school of thought – that the Solar System's planets revolve around the Sun. Newton's findings would become the dominant worldview for more than 200 years, until Albert Einstein and his theory of relativity came along, although the Englishman remained modest about how he had recalibrated people's thinking. "If I have seen further than others," he once confessed, "it is by standing upon the shoulders of giants."



1859

CHARLES DARWIN PUBLISHES ON THE ORIGIN OF SPECIES

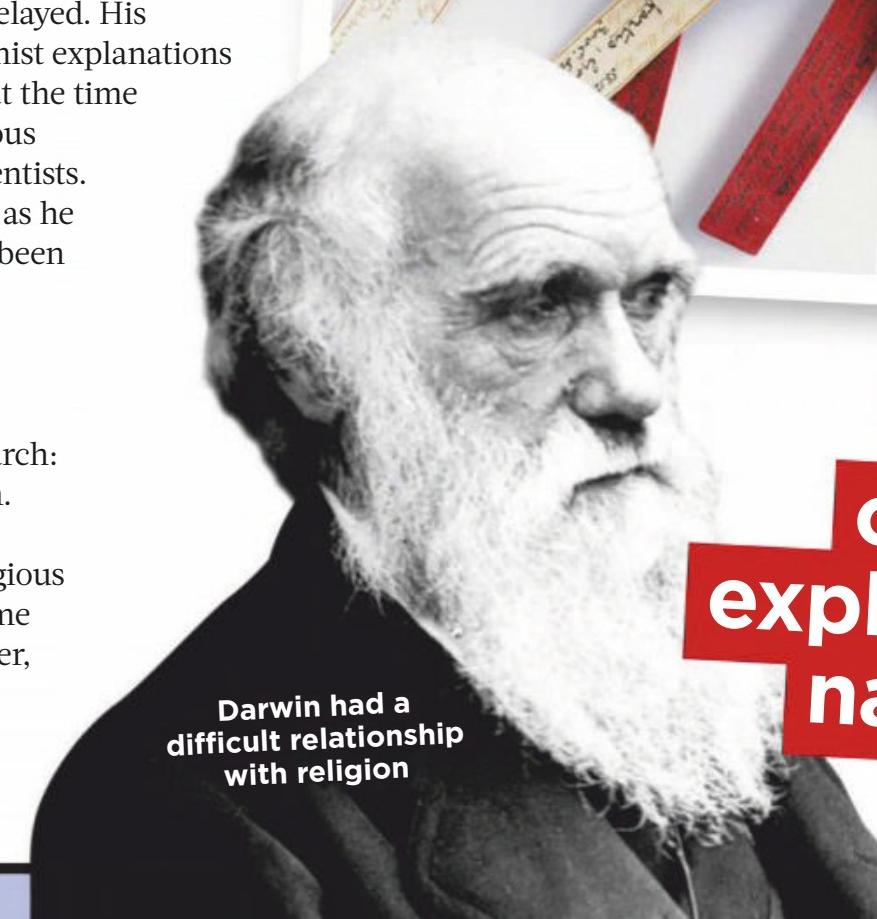
"Whilst this planet has gone cycling on according to the fixed law of gravity, from so simple a beginning endless forms most beautiful and most wonderful have been, and are being, evolved." Charles Darwin had developed his theory of evolution – that species adapt and evolve over time as a process of natural selection – during his travels in the 1830s, specifically to the Galápagos Islands. But it would be 20 years before he published it in *On The Origin Of Species*. There was a reason why he had delayed. His ideas were in contravention of the creationist explanations of the natural world that were dominant at the time – a domination not unconnected to religious benefactors underwriting the work of scientists. Had Darwin published his theory as soon as he had shaped and sanded it, he would have been at the mercy and probable ridicule of the scientific community.

In the end, Darwin's hand was called. Another naturalist, Alfred Russel Wallace, had sent him a short overview of his research: Wallace's theories mirrored Darwin's own. He hurriedly edited his manuscript and published. The book's reception from religious quarters was predictably scathing, but some of his scientific brethren stood in his corner, themselves liberated by Darwin's bravery.

Darwin had a difficult relationship with religion



Darwin's research into Galápagos finches – of which he found 12 distinct species on the tiny archipelago – help foster his theory of evolution



"His ideas contravened explanations of the natural world"



American servicemen and women wave copies of military newspaper *Stars and Stripes*, with the rarest of headlines: peace

"The road to Allied victory was far from inevitable"



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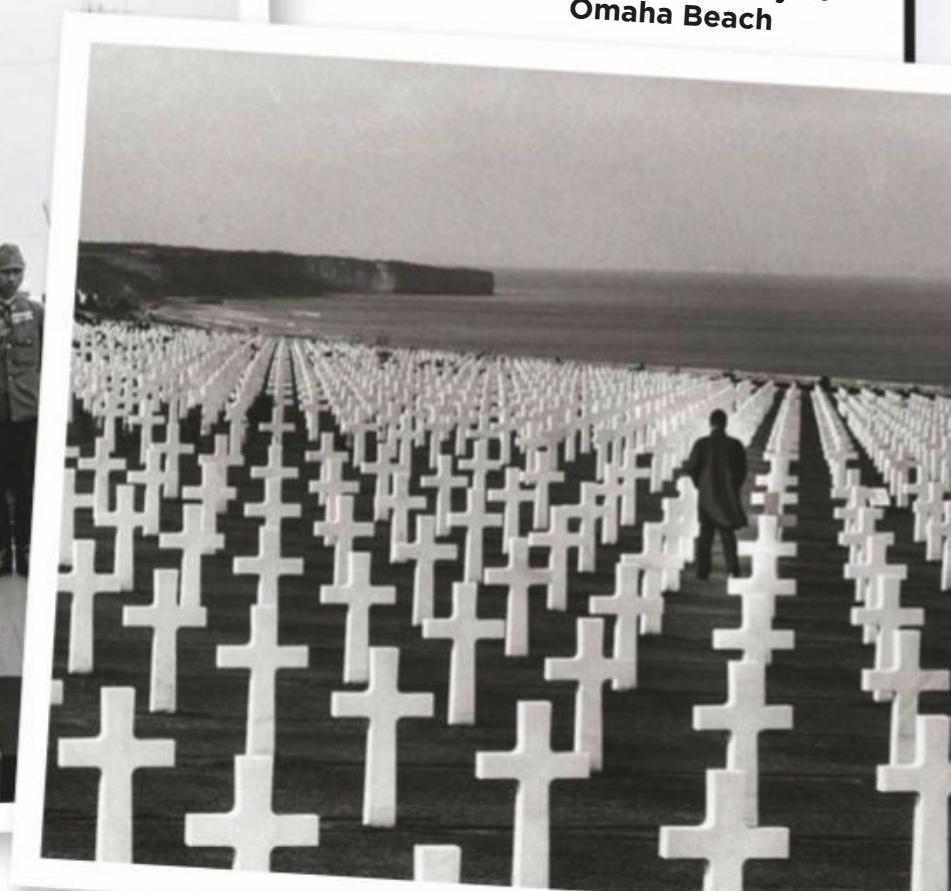
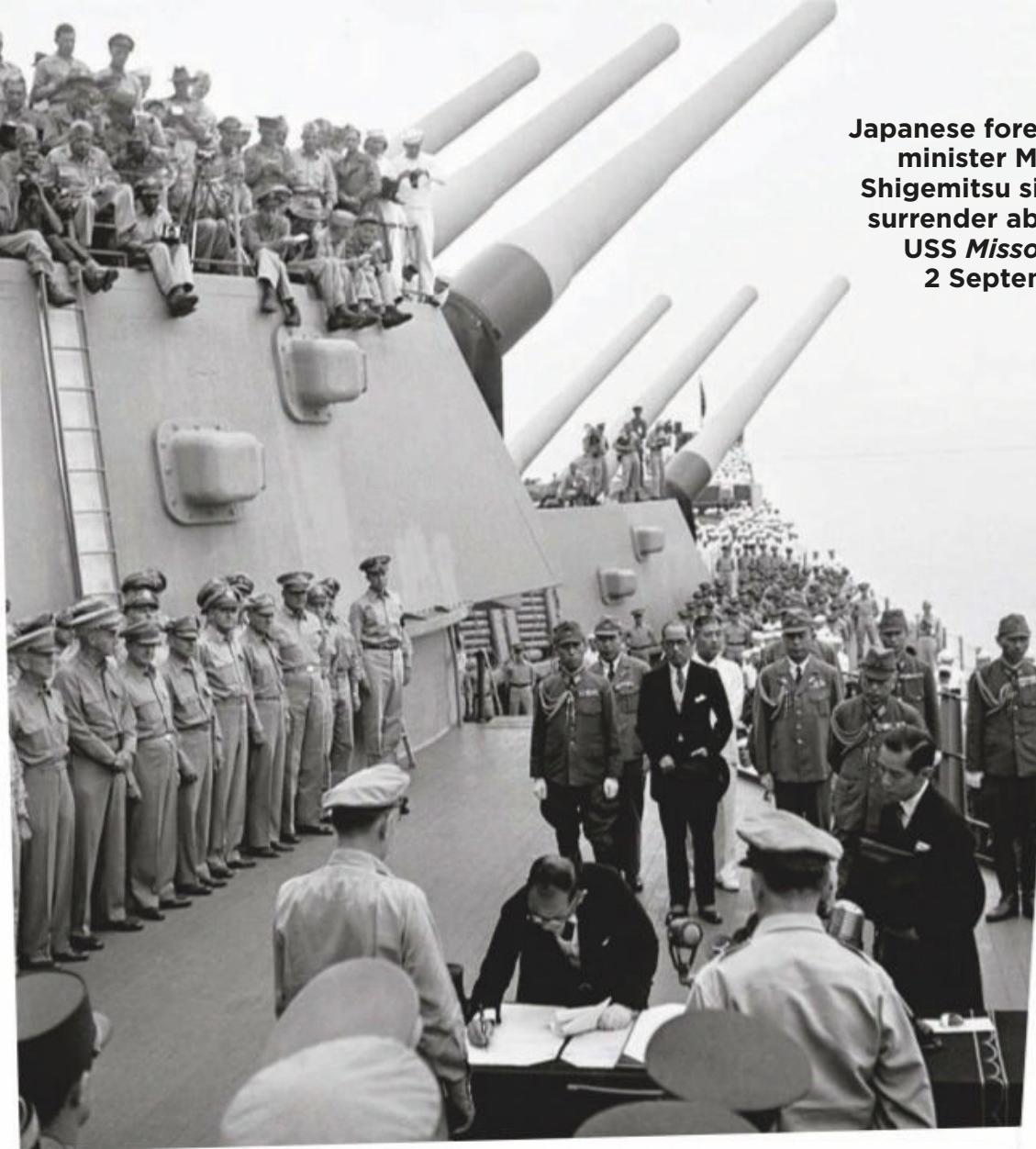
"We may allow ourselves a brief period of rejoicing; but let us not forget for a moment the toil and efforts that lie ahead" – Churchill addresses the nation on VE Day from Downing Street



The PM joined the Royal Family on Buckingham Palace's balcony on VE Day

Japanese foreign affairs minister Mamoru Shigemitsu signed the surrender aboard the USS *Missouri* on 2 September

War cemeteries were established in Europe for the fallen: this is the US Army cemetery at Omaha Beach



1945

WORLD WAR II FINALLY COMES TO AN END

When Prime Minister Neville Chamberlain announced in a solemn radio address on 3 September 1939 that Britain was at war with Germany, there was none of the flag-waving patriotism of August 1914. Instead, the British people – many of whom had lived and fought through the horrors of World War I – were mostly resigned to the fact that Adolf Hitler, and his aggressive form of German territorial expansion, needed to be stopped.

The road to Allied victory was far from inevitable and the German army proved to be an efficient and effective fighting force. But a combination events – from the US's entry into the war in 1941, to D-Day (the largest seaborne invasion in history) in June 1944 – saw the conflict enter its endgame in April 1945. On 7 May 1945, Germany's unconditional surrender was signed in Rheims and the following day – known as Victory in Europe (VE) Day – was celebrated as the war's official end in Europe.

"This is not victory of a party or of any class. It's a victory of the great British nation as a whole", Chamberlain's successor Winston Churchill announced in his VE Day address from the balcony of the Ministry of Health in London. But while the streets of Britain erupted in celebration in the wake of the German surrender, war continued to rage in the Far East as Imperial Japanese forces fought the Allies for control of eastern Asia and the western Pacific.

On 6 August, following continued Japanese refusals to surrender to the Allies, an atomic bomb was dropped on the city of Hiroshima, killing an estimated 140,000 people, 70,000 immediately and the remainder from the effects by the end of 1945. A few hours later, US President Harry S Truman again requested Japan's surrender, stressing that the alternative was "a rain of ruin from the air, the like of which has never been seen on this Earth".

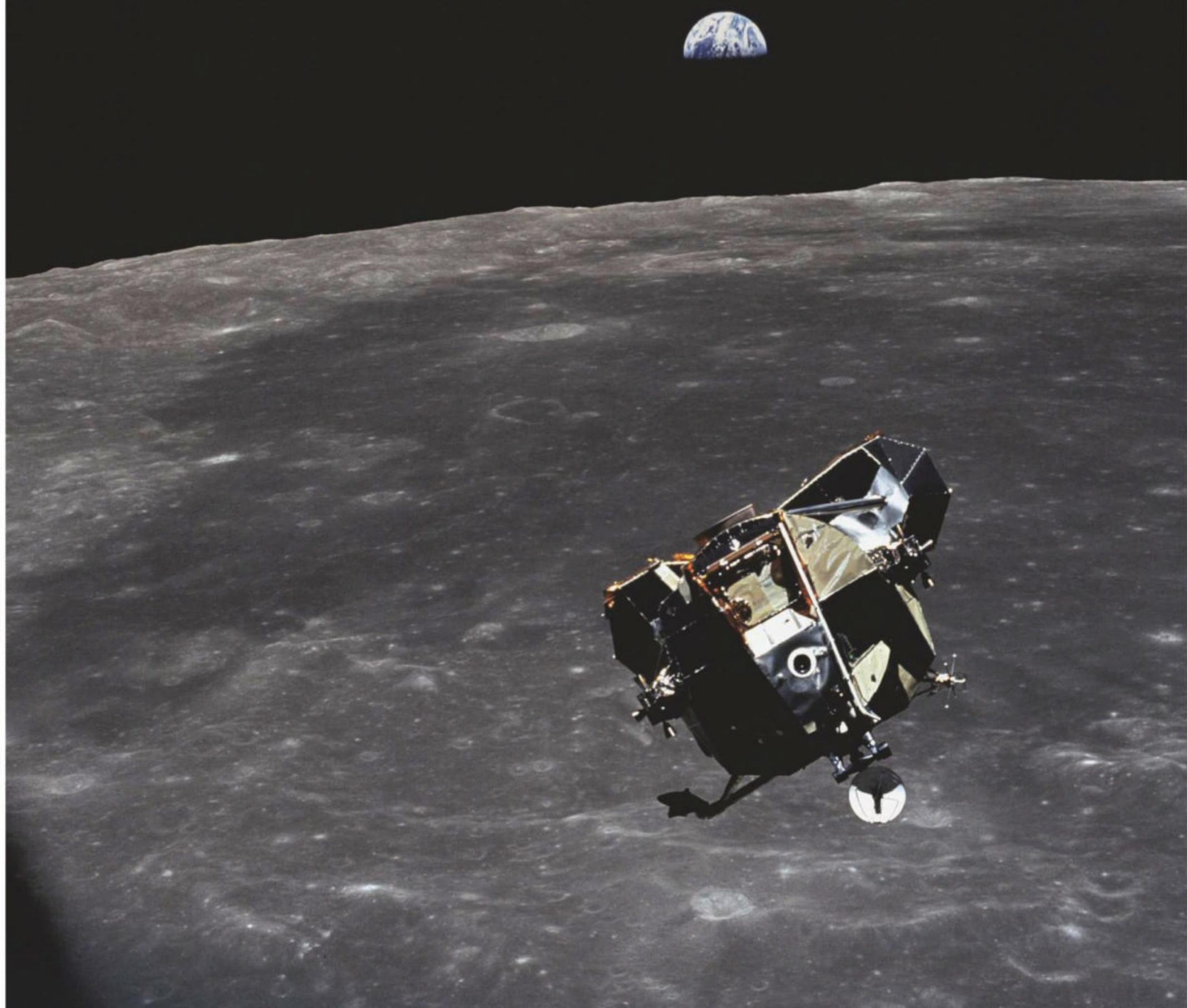
Three days later, a second atomic bomb was dropped, this time on the city of Nagasaki, wreaking mass destruction on its civilian population. Japanese Emperor Hirohito ordered the Supreme Council for the Direction of the War to accept the Allies' terms. On 15 August 1945, Truman declared the day as Victory over Japan (VJ) Day, signalling the end of the war.

"Our hearts are full to overflowing, as are your own. Yet there is not one of us who has experienced this terrible war who does not realise that we shall feel its inevitable consequences long after we have all forgotten our rejoicings today", said King George VI during his address to the nation and empire on VJ Day. Out of the blood and destruction of the six-year conflict, peace had finally been achieved, but at a terrible cost to human life. Figures vary, but up to 80 million lives were lost over the course of the conflict.



“There was a definite political edge to the US’s determination to put a man on the Moon”

From the relative safety of lunar orbit, Michael Collins could only watch as Armstrong and Aldrin made their descent. Though humans had been examining it from afar for centuries, no one really knew what the Moon’s surface would be like



1969

APOLLO 11 LANDS MEN ON THE MOON

On a steamy July day in 1969, those gathered in the control room of what is now the Johnson Space Center in Houston, Texas, held their collective breath. Hearts were pounding. Brows, perspiring. More than 380,000 kilometres away, close to the surface of the Moon, the object of their concern and anticipation – a strange-looking spacecraft named *Eagle* – was possibly in difficulty. Alarms were sounding from its in-flight computer as the crew attempted to land it amongst the strewn boulders of the Moon's Mare Tranquillitatis. Fewer than 30 seconds' worth of fuel remained.

The tension among NASA's ground staff in the control room was absolute and unbearable, but eight words from mission commander Neil Armstrong punctured that anxiety. "Houston, Tranquility Base here. The *Eagle* has landed."

The immediate response from one of the controllers back at base said it all. "You got a bunch of guys about to turn blue. We're breathing again. Thanks a lot."

As heroic as it sounds, "The *Eagle* has landed" wouldn't be the most-quoted statement Armstrong would make that day. This he reserved for the moment at which he planted the first human foot on the loose lunar surface. "It's one small step for man," he was heard saying down an understandably crackly line, "one giant leap for mankind." The 650 million TV viewers who were tuned in at home could forgive him for slightly fluffing his lines; he should have said "one small step for a man". Armstrong later maintained he had said it.

Armstrong and his colleague Buzz Aldrin then spent a couple of hours exploring the

lunar surface, which the latter described as "magnificent desolation". Before embarking on the return leg of their journey, the pair planted a US flag into the rocky ground, as well as affixing a plaque to one of the legs of the soon-to-be-abandoned *Eagle*: "Here men from the planet Earth first set foot upon the Moon. July 1969 AD. We came in peace for all mankind."

THE RACE TO SPACE

"All mankind" might be debatable. There was a definite political edge to the US's determination to put a man on the Moon, with the accelerating Space Race being a key (and conspicuous) tenet of the Cold War. Just a month after the Soviets successfully propelled Yuri Gagarin into space to take the advantage, US President John F Kennedy delivered his 'moonshot' speech to Congress, outlining his vision of landing men on the Moon and returning them to Earth "before this decade is out". For him, the US needed to be the leading party in conquering this final frontier, these uncharted waters. "Only if the United States occupies a position of pre-eminence," he observed during another speech, this one in September 1962 at Rice University in

Mission control kept a close eye on the astronauts during their lunar forays

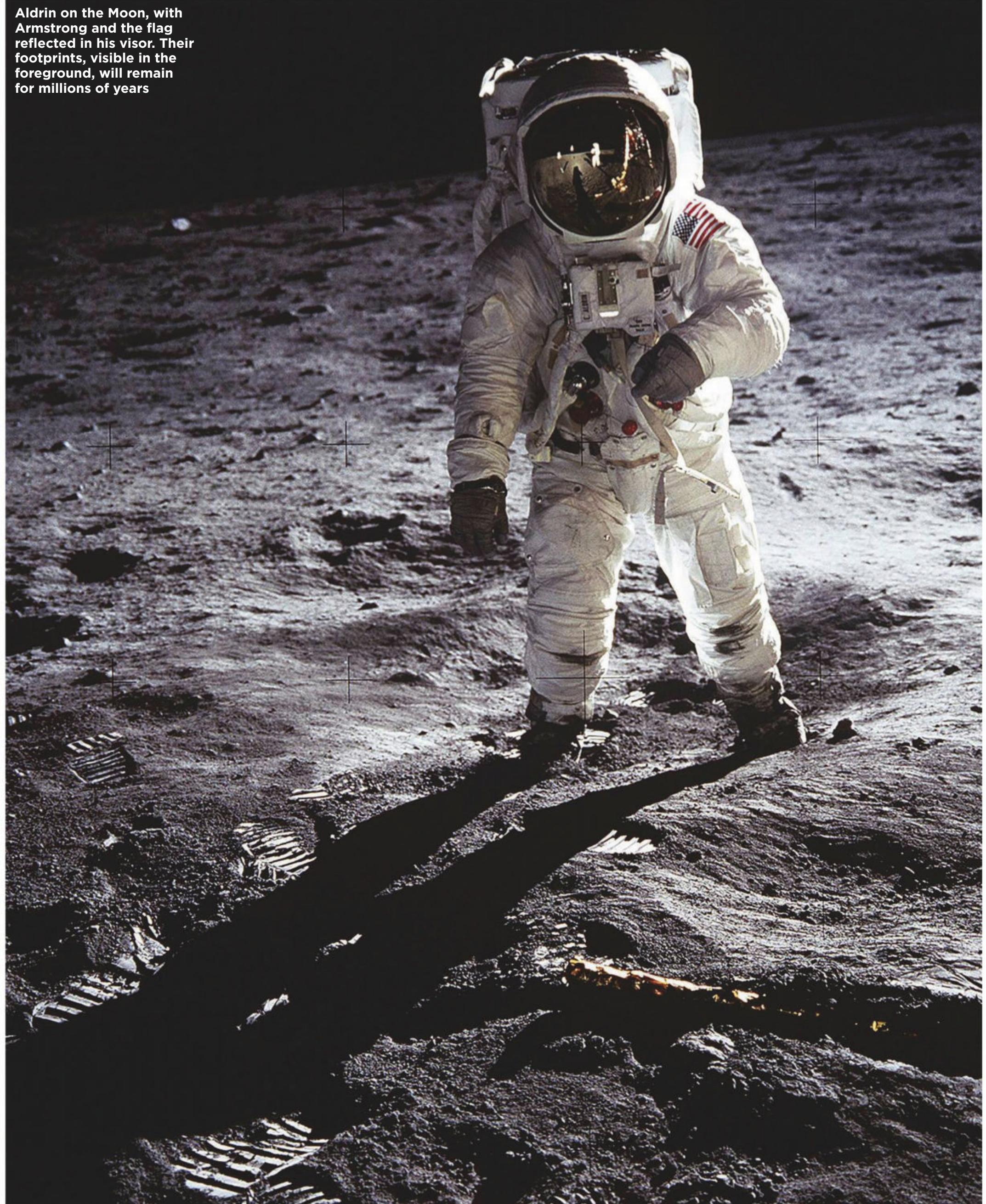


With no wind on the Moon, lunar flags need a horizontal bar so they 'fly' correctly



Kennedy called for the US to land men on the Moon in his 'moonshot' speech in May 1961

Aldrin on the Moon, with Armstrong and the flag reflected in his visor. Their footprints, visible in the foreground, will remain for millions of years



GETTY IMAGES X1, NASA X2

Houston, "can we help decide whether this new ocean will be a sea of peace or a new, terrifying theater of war."

Kennedy was also driven by the idea of creating history, of titanic accomplishment. "We choose to go to the Moon in this decade and do the other things, not because they are easy, but because they are hard; because that goal will serve to organise and measure the best of our energies and skills, because that challenge is one that we are willing to accept, one we are unwilling to postpone, and one we intend to win."

The subsequent Apollo programme, which ran until 1972, consisted of both manned and preparatory unmanned missions. It wasn't an unqualified success. In January 1967, the Apollo 1 mission ended in tragedy when a fire in the command module during a launch rehearsal killed the three-strong crew. Three years after the tragedy, and nine months after the successful Apollo 11 mission, the explosion of an oxygen tank on its outward journey denied the crew of Apollo 13 the opportunity to land on the Moon. Their safe passage back to Earth was a dramatic, touch-and-go affair.

For those first men on the Moon, their short walk was a profound one. Buzz Aldrin later recalled the experience of gazing back at his home planet. "From the distance of the Moon, Earth was four times the size of a full Moon seen from Earth. It was a brilliant jewel in the black velvet sky. Yet it was still at a great distance, considering the challenges of the voyage home." The third member of the Apollo 11 mission, Michael Collins, never got to feel moondust under his feet. His experience was seen

through the window of the command module Columbia, orbiting solo around the Moon while Armstrong and Aldrin got to stretch their legs. He would report that he was neither lonely nor disappointed by this, detailing his emotions as being "awareness, anticipation, satisfaction, confidence, almost exultation".

A STEP TOO FAR?

But was this extraordinary achievement by these three men actually an achievement? Did the 1969 Moon landing really happen? Conspiracy theorists, seeking a new cause célèbre six years after John F Kennedy's assassination, poured scorn on the idea that science was able to accomplish a feat as far-fetched as landing a spacecraft on this distant natural satellite.

These doubters believed NASA falsified the landings, filming fake footage to trick people into believing that the Space Race had been won. While up to a fifth of US citizens continue to subscribe to this notion half a century later, substantial third-party evidence has been produced to debunk the theory, including subsequent photographs showing the tracks made by various Apollo crews, as well as the flags that each mission left behind.

The Apollo missions were far more than flag-planting, strength-showing exercises. After Armstrong and Aldrin set foot on the lunar surface, ten more astronauts did likewise over the following three-and-a-half years as five further missions successfully reached their destination. They returned to Earth with the data gathered from extensive experiments – both geological and meteorological – along with

an accumulated 382 kilograms of rock samples. But did their findings justify the stratospheric expense, the \$25.4 billion outlay that was reported to Congress in 1973?

When Kennedy had announced the Apollo programme, his predecessor in the White House, Dwight Eisenhower, had dismissed it as "just nuts". But the country wasn't with old Ike. They were dreaming. As Andrew Smith, author of *Moondust: In Search Of The Men Who Fell To Earth*, points out: "For one decade, and one decade only, Americans appeared happy, even eager, to place their trust and tax dollar on the collection plate of big government and its scientist priests". And they got what Kennedy had promised them. Footprints on the Moon. And one giant leap. ☺

GET HOOKED

WATCH & LISTEN

Find a wealth of content on the Apollo 11 moon landing, including the podcast *13 Minutes to the Moon* at www.bbc.co.uk/programmes/w13xttx2

READ

Find out more about the Soviet and US battle to be first to the Moon in the August issue of *BBC History Magazine* – on sale from 11 July

HAVE YOUR SAY

What 'great leap' do you think should have made the list? Email your thoughts to haveyoursay@historyrevealed.com or get in touch via social media

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"Apollo was far more than a flag-planting exercise"



ABOVE: Armstrong, Collins and Aldrin (l-r) were all smiles on their return home

LEFT: Houston erupted in jubilation on learning the astronauts had safely splashed down to Earth

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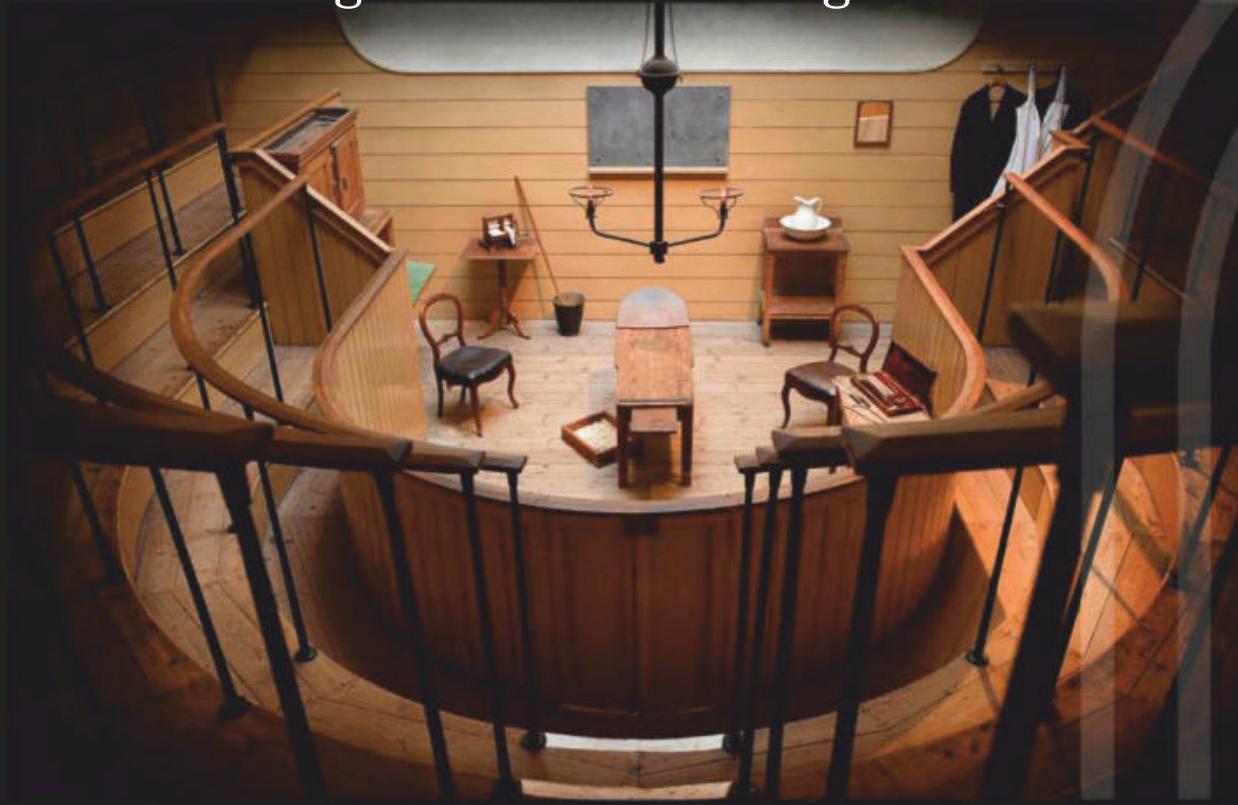
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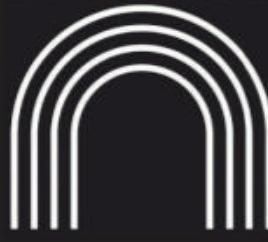
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Noor confounded her
trainers: she was an Indian
independence advocate
with royal heritage, a
defiant pacifist and
seemingly unwilling to lie

NOOR INAYAT KHAN AN UNLIKELY WAR HERO

The first female radio operator to be sent underground in occupied Paris to aid the French Resistance during World War II was also the most unlikely person for the job, writes **Pat Kinsella**



Once behind enemy lines in Nazi-occupied Europe during World War II, a covert radio operator's life expectancy was measured in days. Weeks if they were really lucky. And that was if they had a face that easily blended in.

Noor Inayat Khan – a half-Indian, Russian-born Muslim, and the first woman dropped into France to perform this perilous duty – did not have such a visage. Nor, it seemed, did she possess many of the attributes or life experience most would consider necessary to participate in this most ruthless of roles, where deceit was demanded daily and the prospect of discovery and death was ever present.

On her father's side, Khan hailed from Indian royalty. She was a descendant of Tipu Sultan, the Tiger of Mysore, who famously put up a ferocious fight against the rapacious British Raj in the late 18th century. She was a strong believer in Indian independence, yet ended up fighting alongside the British against a common foe. Perhaps the bigger conflict was the one inside her soul. This nervous, small-framed woman – a writer and author prior to the outbreak of war – was a devout pacifist in a world that had descended into a maelstrom of violence.

Some of those in the Special Operations Executive (SOE) who trained Noor expressed reservations about her suitability for such service. Yet once dropped into France she evaded capture for several months – even while the networks around her collapsed – sending valuable reports back to Britain. And after she was betrayed, and during all the horror that followed, she exhibited incredible loyalty and an extraordinary inner strength, which held resolute right until the awful end.

But what was she doing there in the first place? The backstory of Britain's most unlikely war hero is every bit as bizarre as the conclusion is tragic.

Born in Moscow on 1 January 1914, Noor-un-nisa Inayat Khan was the eldest of four children. Her Indian father, Inayat, was a musician and spiritual



Noor's father, Inayat, was a prominent voice of the Sufi faith, which shaped Noor's worldview



Noor was both Britain's first female wireless operator dispatched to France and its first Muslim war heroine



"In training, Noor seemed frightened of weapons and went to pieces in a mock interrogation"

teacher; her mother an American from Albuquerque in New Mexico, who changed her name from Ora Ray Baker to Amina Begum after marriage. Shortly after Noor's birth, the family left Russia and relocated to London. In 1920 they moved again, this time to France, settling just outside Paris in Suresnes.

Inayat died suddenly during a visit to India in 1927, leaving Amina grief stricken, and 13-year-old Noor took on responsibility for her sister and two brothers. She continued her education, studying child psychology at the Sorbonne and music at the École Normale de Musique, playing the piano and harp. She began writing children's stories, had a book published, and worked as a journalist for magazines including *Le Figaro*.

When World War II erupted, the family fled back to Britain, travelling via Bordeaux to Falmouth in Cornwall. Heavily influenced by the teachings of her father (who brought Sufism to the West) and Gandhi's policies of nonviolence, Noor was a committed pacifist. But – in a pact with her brother Vilayat – the siblings swore to fight Nazi oppression however they could, without directly killing anyone. He volunteered for minesweeping, while

she would ultimately perform arguably the most dangerous of all wartime roles: a covert radio operator.

UNREADY AND WILLING

In November 1940, Noor joined the Women's Auxiliary Air Force (WAAF) and undertook one month's training as a wireless operator in Harrogate, followed by a six-month stint in Edinburgh learning to be a wireless telegraphist and a seven-week Advanced Signals and Wireless course in Wiltshire.

Not one to lie about her beliefs, during her first interview for active commission, in August 1942, Noor stunned the board with the frankness with which she set out her political beliefs. A passionate supporter of Indian independence, Noor stated that, while the war with Germany lasted, she would be loyal to the British



A WAAF operator works the wireless. Though Noor was considered a curious character by her SOE superiors, she proved to be technically adept

Government and Crown, but once it had ended, she would likely reconsider her position and add her support to the fight for Indian independence.

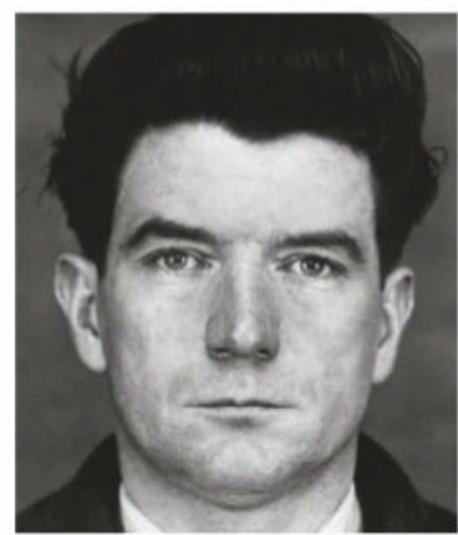
Although her application was rejected, Noor's fluency in French, technical ability as a wireless operator and willingness to take a more active role in secret work was noted, and she was duly recommended to the SOE's F (French) Section. Its head of recruitment was the novelist Selwyn Jepson, who considered Noor perfect for 'special employment'. Noor accepted the invitation immediately, donned the uniform of the First Aid Nursing Yeomanry (the SOE operative's standard disguise) and began her training in February 1943.

Noor went through an intensive three-week crash course in crucial skills, including armed and unarmed combat, and cross-country navigation. Her fitness, aptitude for dangerous underground work and ability to withhold important information under duress were all assessed.

Initial reports weren't encouraging. Noor seemed frightened of weapons, went to pieces while being questioned in a mock interrogation, and – despite her willingness to volunteer – appeared completely ill-prepared for what might follow. The head of the school commented that Noor hadn't "the foggiest idea what the training was



Maurice Buckmaster was the chief of SOE's F Section



Henri Déricourt leaked SOE's plans to the Germans

going to be about", but did note that she developed a certain amount of confidence "from a shaky start". Her mental agility was called into question.

Noor was determined, though, and put in extracurricular efforts. Still, she failed to qualify for parachute training, and instead attended SOE's radio school at Thame Park in Oxfordshire, before learning how to operate underground at the SOE's 'agent finishing school' at Beaulieu in Hampshire.

Doubts persisted, and several people – including one of her fellow trainees at Wanborough – vocalised their opposition to Noor's involvement in delicate operations where multiple lives would be put at risk by an under-performing agent. But Maurice Buckmaster, head of F Section, brushed aside such concerns. Noor had the language and technical skills required. And besides, they were desperate. Under a disparaging comment about her intelligence in a written report, Buckmaster noted: "We don't want them overburdened with brains."

Late on 16 June 1943, two Lysander aircraft took off from RAF Tangmere in West Sussex. Aboard one was a very nervous Noor Inayat Khan. She and a number of other fresh recruits were met at a secret landing spot near Angers in northwest France by Henri Déricourt, a Frenchman working for SOE. Déricourt was later revealed as a

THE LADIES OF UNGENTLEMANLY WARFARE

The Special Operations Executive (SOE) was formed in London in July 1940 to conduct reconnaissance, espionage and sabotage in occupied Europe, assisting local resistance fighters. Highly secretive, those who knew of its existence commonly referred to the organisation as the 'Baker Street Irregulars', 'Churchill's Secret Army' or the 'Ministry of Ungentlemanly Warfare'. Of the 13,000 people employed by SOE at Baker Street or working as agents in the field, around 3,200 were women.

VERA ATKINS

Romanian by birth, Atkins was assistant to Maurice Buckmaster and was responsible for recruiting and deploying agents into occupied France, including 37 women SOE agents working as couriers and wireless operators. Atkins accompanied the departing women to the airfield, maintained contact with their families and, after the war, made it her personal quest to discover the fate of those who didn't return. She died in 2000.



SONIA OLSCHANEZKY

A German-born Jew, Olschanezky narrowly avoided being sent to an extermination camp. Once free, she joined the SOE's JUGGLER circuit, working as a courier and assisting in operations that included blowing up freight trains. When the PROSPER network collapsed, she remained in position, taking great risks by liaising between SOE groups, some of which were likely compromised. Captured and interrogated by the Gestapo in 1944, Olschanezky was executed by incineration at Natzweiler-Struthof concentration camp with fellow SOE agents Andrée Borrel, Vera Leigh and Diana Rowden.



ODETTE SANSON HALLOWES

French-born, Odette Brailly moved to England with her first husband Roy Sansom. During World War II, she enrolled her three daughters into a convent school, joined SOE and was sent into Nazi-occupied France. She acted as courier for Peter Churchill, who headed SPINDEL, a Cannes-based SOE network. Arrested in April 1943, Hallowes was interrogated and tortured by the Gestapo 14 times in Fresnes Prison (where her toenails were pulled out) before being sent to Ravensbrück concentration camp. She survived, and became the most highly decorated woman to serve in the war. She died in 1995.



VIOLETTE SZABO

Born in France, Violette grew up bilingual in London, married a member of the French Foreign Legion (Étienne Szabo), and had a daughter in 1942. When Étienne was killed in action, Violette joined the SOE. After training, she parachuted into France and successfully carried out a reconnaissance mission. On her second deployment – in which she parachuted into southwest France the day after the D-Day landings to set up a new network – she was caught. After being tortured by the Gestapo, she was taken to Ravensbrück where, aged 23, she was shot. Posthumously she received the Croix de Guerre and the George Cross.



double agent who leaked information to the Sicherheitsdienst (SD), the intelligence agency of the SS.

Using the nom de guerre 'Madeleine' and posing as a governess from Blois called Jeanne Marie Renier, Noor made her way to Paris alone. There she made contact with Emile Garry, head of the F-Section 'network' in Le Mans – networks, also known as circuits, being small cells of operatives charged with gathering information. She was subsequently introduced to Francis Suttill, who ran the larger PROSPER network, the tentacles of which spread across northern France, his wireless operator Gilbert Norman, and France Antelme, leader of the Paris-based BRICKLAYER network. From Norman's

radio hideout in Grignon, Noor transmitted her first message back to Britain, communicating her safe arrival.

But she wouldn't be safe for long. On 24 June, Suttill, Norman and their courier Andrée Borrel were all arrested,

and the SD began working its way through the ranks of the PROSPER network. As agents scattered and scurried to new safe houses, Noor tried and failed to rescue Norman's wireless set from Grignon and was almost caught. She did, however, manage to arrange transport to London for Antelme in a Lysander. She refused to join him on the flight, choosing instead to stay and keep transmitting intelligence to her receivers. Noor quickly became isolated as other agents and wireless operators were arrested, left the city for the relative safety of the south, or disappeared altogether.

LONE OPERATOR

Noor was now F-Section's only eyes in Paris. Adding to the chaos, the Germans began transmitting fake messages from Norman's captured wireless. Buckmaster sent one of his senior officers, Nicholas Bodington, to Paris to investigate, and when his own wireless operator was caught, Noor became even more important. She had to keep moving constantly, carrying her heavy wireless set in a suitcase around the city, dyeing her hair, wearing disguises, staying with pre-war friends (at great risk to all) and living by her wits.

Despite this, Noor wrote a letter to Buckmaster enthusing about her mission, which went back to Britain with Bodington when he was airlifted out of France in mid-August 1943 on a flight arranged by Déricourt. But her handlers knew she was exhausted, and Buckmaster was apparently making arrangements to extract Noor from Paris in mid-October. Sadly, her luck wouldn't last that long. Déricourt had already photographed her letter to Buckmaster, along with other important communications, and had passed them on to the Germans. The net was quickly closing. Yet the sting, when it was finally felt, came from an unexpected source.

After evading arrest for four months, Noor's capture was seemingly the result of a betrayal by Emile Garry's sister, Renée, who was apparently motivated by petty jealousy (plus a reward of 100,000 francs). The source of the tip-off has never been proved (Renée was acquitted when accused of betrayal after the war), but two SD officers stated it had come from a French woman. Dates and details are muddled, but Noor was apprehended at a safe house on Rue de la Faisanderie, and taken to the SD's headquarters at 84 Avenue Foch. Buckmaster learned of her arrest on 2 October, via a coded telegram sent by SOE agent Jacques Weil, who communicated that Madeleine

"She had to keep moving – constantly dyeing her hair, wearing disguises and living by her wits"

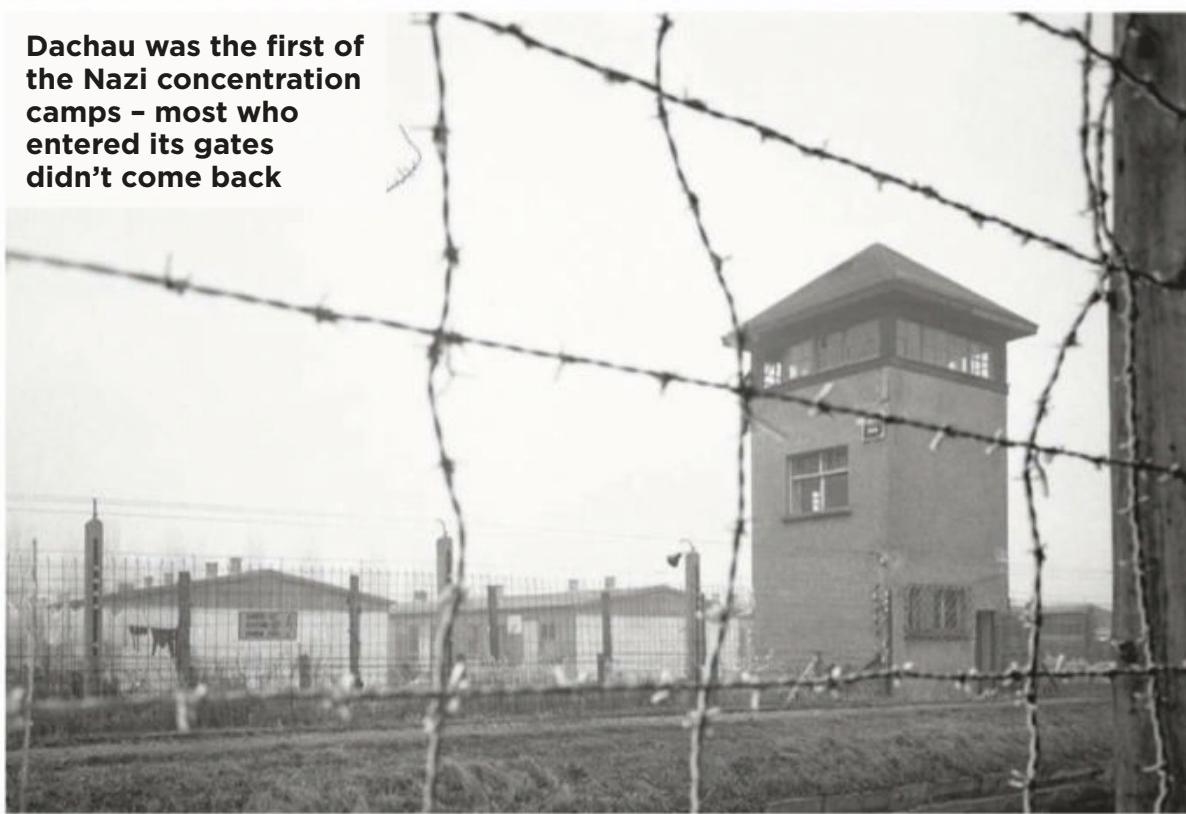


1939

It was in the year that WWII erupted that Noor published her children's book, *Twenty Jataka Tales* – a series of fables concerning the previous lives of Buddha

The SOE Type 3 Mk II (B2) radio was built into a suitcase for stealth, but it was a weighty bit of kit – around 15kg

Dachau was the first of the Nazi concentration camps – most who entered its gates didn't come back



had “had a serious accident” and was now “in hospital”.

After she attempted to escape through a bathroom window, the SD wasted no time in grilling Noor. Despite her poor performances during the mock questioning in her training, when it came to the real deal, Noor’s resistance was remarkable – even by the SD’s own admission – and Ernst Vogt, her interrogator, wasn’t able to extract any information at all. SD commandant Hans Kieffer later said that they “could never rely on anything she said”, and his wireless expert Josef Goetz confirmed that “Madeleine refused to give us any assistance whatsoever”.

Unfortunately, the SD had Noor’s wireless set and, much worse, the codebook in which she’d annotated previous messages. Carrying a written account of her communications has been described as extremely naive and irresponsible (although it has been speculated that Noor misinterpreted an instruction about being careful with filing messages as a command to keep a record of them). Either way, it gave Goetz access to valid code words and his wireless operators the ability to mimic Noor’s ‘fist’ (tapping style) so they could send false messages from her set. This campaign, codenamed DIANA, fooled Buckmaster into maintaining his operations. Seven agents, including Antelme, were subsequently caught and executed after being sent into traps set by the SD.

THE LAST GASP

In November 1943, Noor attempted escape again, together with SOE agent John Starr and Léon Faye, a prominent member of MI6’s ALLIANCE intelligence network, who were being held in neighbouring cells. Having managed to procure a screwdriver, they each loosened the bars on their skylights and

got out onto the roof. Unfortunately, the escape coincided with an RAF air raid, causing the guards to check the cells and discover the breakout. An incandescent Kieffer demanded their word that there would be no further attempts at escape; Starr agreed but Noor and Faye’s refusal saw them both deported to Germany.

Put on a train within hours, Noor was taken to the prison in Pforzheim. She was placed in solitary confinement, with chains on her hands and feet, and fed meagre rations of potato peel or cabbage soup. Yolande Lagrave, a member of Faye’s intelligence network, was in a nearby cell, and later recounted overhearing Noor being regularly beaten. They managed to communicate by scratching on their mess tins; Noor gave her name as Nora Baker – a name she had used during training. This torture continued for ten months, during which Noor refused to talk. Eventually she was moved to Karlsruhe by train, with three other female agents: her old training partner Yolande Beekman, Eliane Plewman and Madeleine Damerment. The latter was a victim of the radio game Goetz had been playing with Noor’s wireless set and codes.

The women were taken to Dachau concentration camp, and shortly after their arrival, all four were taken to the crematorium and executed by SS officer Friedrich Wilhelm Ruppert. An anonymous witness later told a Canadian intelligence officer that Noor had been singled out for ‘special treatment’ by Ruppert, who administered a near-fatal beating before shooting her with a pistol. She was just 30 years old.

In recognition of her bravery, Britain posthumously awarded Noor Inayat Khan the George Cross, while France honoured her with the Croix de Guerre. A statue commemorating this courageous woman now stands in

RADIO GAMES & DOUBLE AGENTS

Noor Inayat Khan has been criticised for keeping a written record of her communications, which was discovered after her arrest (along with her wireless set) and used by SD wireless expert Josef Goetz to wage a deadly war of misinformation. Goetz had his operators mimic Khan’s style and use secret code words to send messages back to Maurice Buckmaster, head of the Special Operations Executive’s (SOE) F Section, who thought they were coming from her. More agents were subsequently sent into France, where they were snared by the Gestapo.

Blame for this calamity does not rest with one person. Buckmaster and his intelligence officer, Vera Atkins, missed multiple clues that messages were not as they appeared. The biggest faultline in the whole SOE operation was the complex game being played by double (and possibly triple) agent Henri Déricourt, who was liaising with the SOE, MI6 and the SD all at the same time.

Déricourt was cleared of collusion during a 1948 trial, when evidence provided by senior SOE figure Nicholas Bodington suggested that Déricourt was taking orders from MI6 to mislead the Germans into thinking he was double-crossing SOE, thereby distracting them from the plans that were afoot for D-Day. While this got Déricourt off the hook, it does imply that some SOE agents were regarded as dispensable by elements of British intelligence, some of whom were working against one another (either by fault or design), and questions remain over this whole episode.



Princess Anne with the London statue of the ‘spy princess’ unveiled in 2012

Gordon Square, London, close to where she once lived – the first memorial in Britain dedicated to an Asian woman. It records the last word Noor is said to have uttered before her life was brought to an abrupt end: “Liberté!”

GET HOOKED

LISTEN



Shahidha Bari uncovers Noor Inayat Khan’s incredible story on BBC World Service’s *The Documentary Podcast – Codename: Madeleine* at www.bbc.co.uk/programmes/p02rtghz

READ

Delve into Noor Inayat Khan’s story in Shrabani Basu’s *Spy Princess: The Life of Noor Inayat Khan* (The History Press, 2008)

WAS RAMESSES II REALLY THAT GREAT?

Emma Slattery Williams considers whether the fêted pharaoh – master builder, war hero and peace broker – was actually a brilliant propagandist who knew how to curate his image

Ramesses II is often counted among Ancient Egypt's greatest pharaohs. He certainly saw himself that way: he spent most of his reign covering his kingdom in monuments dedicated to himself. The third ruler of the 19th Dynasty had an unusually long kingship, fathered hundreds of children and – if you believe his own press – was a mighty warrior who could hold his ground against an entire army. "My name is Ozymandias, king of kings," wrote Percy Bysshe Shelley in his 1818 poem *Ozymandias*, adopting the name the Ancient Greeks used for Ramesses II. "Look on my works, ye Mighty, and despair!"

Though Shelley's poem is written as a cautionary tale – his Ozymandias's mighty empire is long gone, and where it once was, "the lone and level sands stretch far away" – the memory of the real Ozymandias lives on. Ramesses II, son of Pharaoh Seti I and grandson of 19th Dynasty founder Ramesses I, was the mastermind of such an extensive programme of building across Egypt that his presence is difficult to escape even now – from Abu Simbel to Karnak, you can still see colossal statues bearing his likeness.

But does that mean he deserves the epithet of 'the Great' that was later bestowed on him?

Ramesses II was born in c1303 BC to Seti's consort Tuya. His first taste of battle came as a boy, during one of his father's campaigns, though how old he was is unclear. What is known is that he had been named Captain of the Army by the age of ten and, at 14, was appointed as prince regent and bestowed with a household.

Ramesses ascended the throne when Seti I died in 1279 BC, and almost immediately moved the royal court from Thebes to a new site on the eastern Nile Delta. The magnificent city that blossomed here – with the modest name of Pi-Ramesses – would become home to more than 300,000 people. He would go on to rule for 67 years, the longest documented reign for any pharaoh, at a time when Ancient Egypt was at the peak of its power. His lands stretched from the Mediterranean to Nubia in modern-day Sudan.

THE VIRILE BUILDER

The early years of his reign saw a focus on foreign policy, during which Ramesses led

campaigns to reclaim lost lands and built a series of forts along the Nile Delta. But his longest-lasting legacy is in the form of the buildings and monuments he left behind.

In Ancient Egypt, the pharaohs were seen as a link between the gods and the common people, and were considered to be divine themselves. Ramesses was no exception. To ensure that he was always in the thoughts of his subjects, he commissioned more statues of himself than any other pharaoh. Typically, they featured a cobra on his crown, a sacred animal believed to protect against one's enemies.

He also made a point of 'renovating' statues and temples erected by pharaohs who had come



Ramesses II appears as a boy on reliefs at Seti I's tomb in Abydos



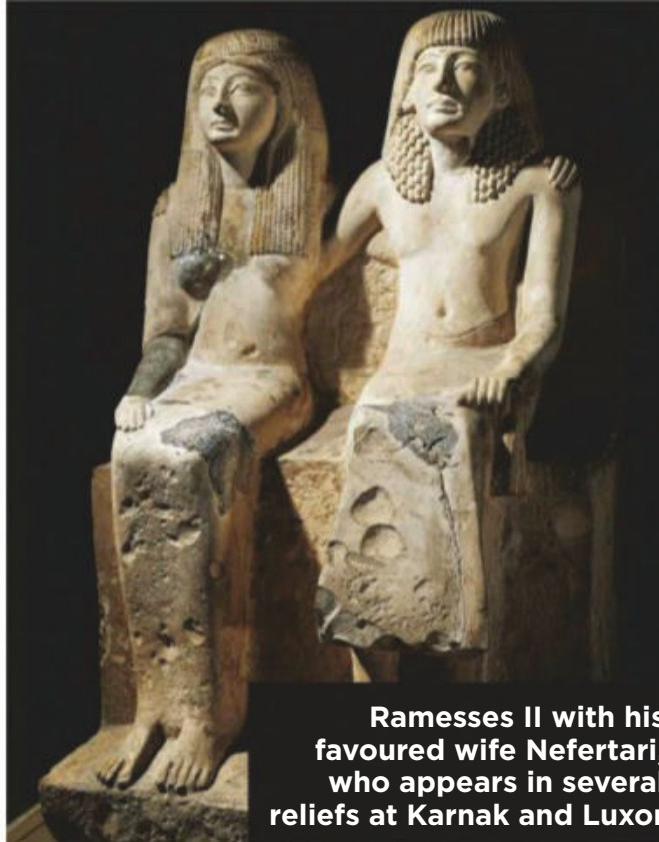
Ramesses II smites his enemies in this relief from Deir el-Bahri. Known as Ozymandias to the Ancient Greeks, he inspired Percy Bysshe Shelley's poem of the same name

before, with his cartouche – a hieroglyphic stamp bearing Ramesses' name – found on buildings and statues that Ramesses definitely didn't build. But it's unclear if, by recycling colossal statues, he was trying to fill the land with his image in a cost-effective way, or if he intended to honour Ancient Egypt's earlier rulers. Certainly, his influence is helped by the fact that his sculptors adopted the practice of carving 'sunken' reliefs that emerged in the 18th Dynasty; the alternative was the raised relief, which was much easier to erase, either by accident or intention.

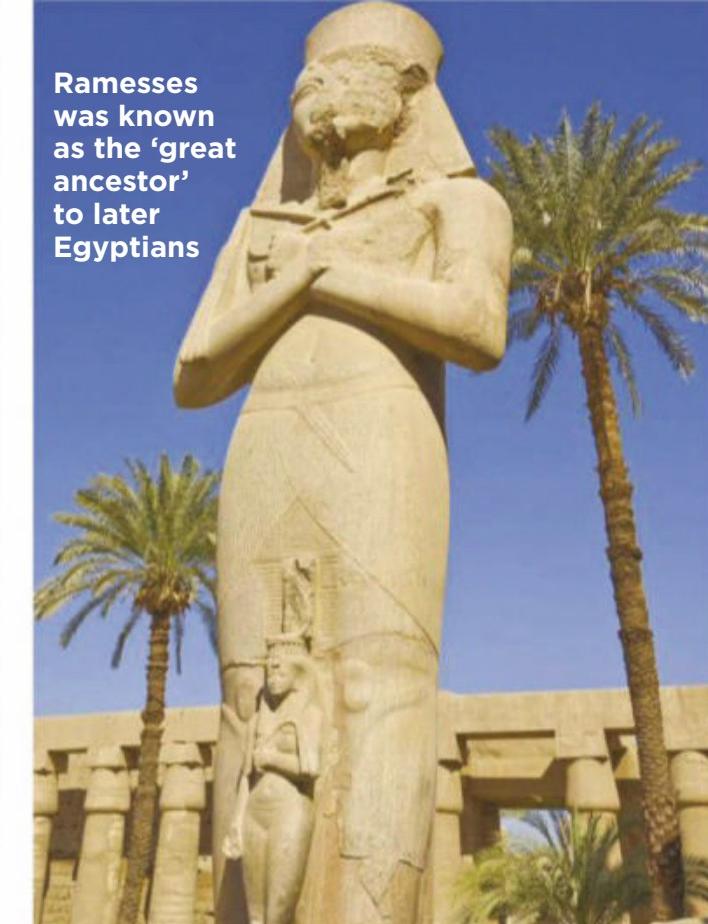
The pinnacle of these projects was Abu Simbel – representing both a masterwork of building as well as political propaganda. Built to mark the 30th anniversary of his reign, this pair of temples on the Nile's second cataract were cut directly into the sandstone cliffs.

The first, the Great Temple, was Ramesses' own: a 30-foot high edifice, the door to which is flanked by four seated, 20-metre-high colossi representing the pharaoh, though it is ostensibly dedicated to the gods Amun, Ra-Horakhty and Ptah. The neighbouring Small Temple (a still-substantial 12 metres high) is dedicated to Hathor in honour of Ramesses' favourite and first wife, Chief Queen Nefertari.

As was common amongst pharaohs, Ramesses was married to several women at the same time; it's estimated he had eight



Ramesses II with his favoured wife Nefertari, who appears in several reliefs at Karnak and Luxor



Ramesses was known as the 'great ancestor' to later Egyptians

official wives and a number of concubines. But it was Nefertari who is thought to have been his favourite. They married while his father ruled and had ten children together. Indeed, Ramesses' many children can be seen as more evidence of his great legacy – he is said to have sired more than 100 offspring throughout the course of his life.

Nefertari is assumed to have died by the time of Ramesses' jubilee celebrations in the 30th year of his reign, and the completion of her temple at Abu Simbel. Her tomb in the Valley of the Queens is considered one of the most beautiful ever discovered. Images of Nefertari

found across Egypt suggest she was famed for her beauty, and poetry written for her by Ramesses can be found within her tomb.

THE MIGHTY WARRIOR

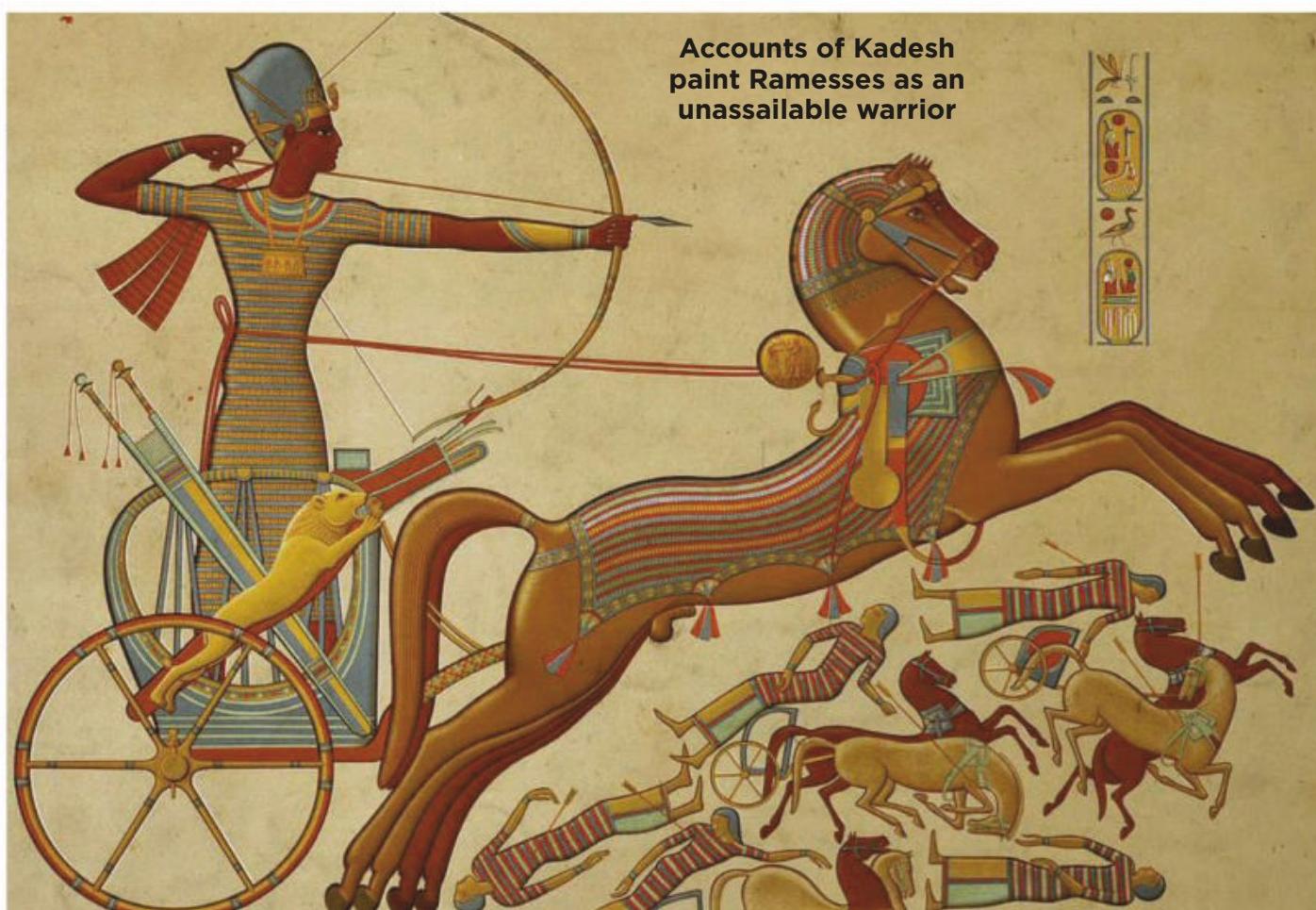
Artwork on the interior of the Grand Temple commemorates the Battle of Kadesh in 1274 BC, which Ramesses seems to have considered his greatest triumph – he had it recorded in reliefs across many other temples, too, as well as in poetry. The city of Kadesh once belonged to Egypt, but had fallen to the Anatolian Hittite Empire during Seti I's reign. It was perched in a precarious position, on the frontier of these rival empires.

After leaving a detachment of soldiers at nearby Amurru, Ramesses set his sights on recapturing Kadesh. His army numbered 20,000, divided into four divisions of infantry and chariotry. On the way, he managed to apprehend some Hittite deserters, who brought him the welcome news that the terrified Hittites were still more than 100 miles away. This fuelled Ramesses' self-belief in victory – he saw himself as the living incarnation of Montu, the Egyptian god of war.

With an unshakeable confidence in his might, he marched towards Kadesh only to come across more Hittite soldiers, who were this time more honest in their confessions. Ramesses had fallen for the oldest trick in the book: the Hittites, under the leadership of King Muwatalli II, had already reached Kadesh and were waiting just over the hill. Ramesses' armies weren't prepared, with two divisions still on the wrong side of the Orontes River. The royal family, which had come with the army to witness Ramesses' triumph, were swiftly taken to safety as many of his men fled in terror.

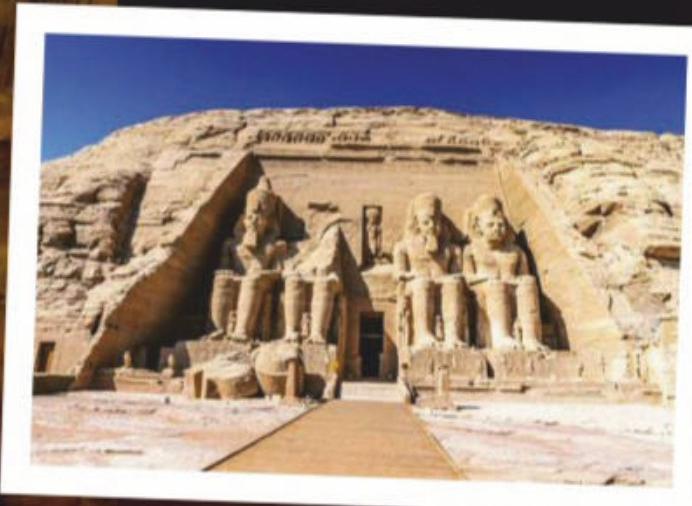
How the rest of the battle played out is unclear as Ramesses created a fantastic tale of his god-like prowess as a warrior and swift victory – if we are to believe the Pharaoh, he defeated the Hittite army single-handedly after praying to Amen-Re to make him stronger than any other man: "I found that my heart grew stout and my breast swelled with joy. Everything which I attempted I succeeded ... I found the enemy

"It's estimated Ramesses had eight official wives and a number of concubines"



Accounts of Kadesh paint Ramesses as an unassailable warrior

THE GREAT PHARAOH'S GREATEST MONUMENTS

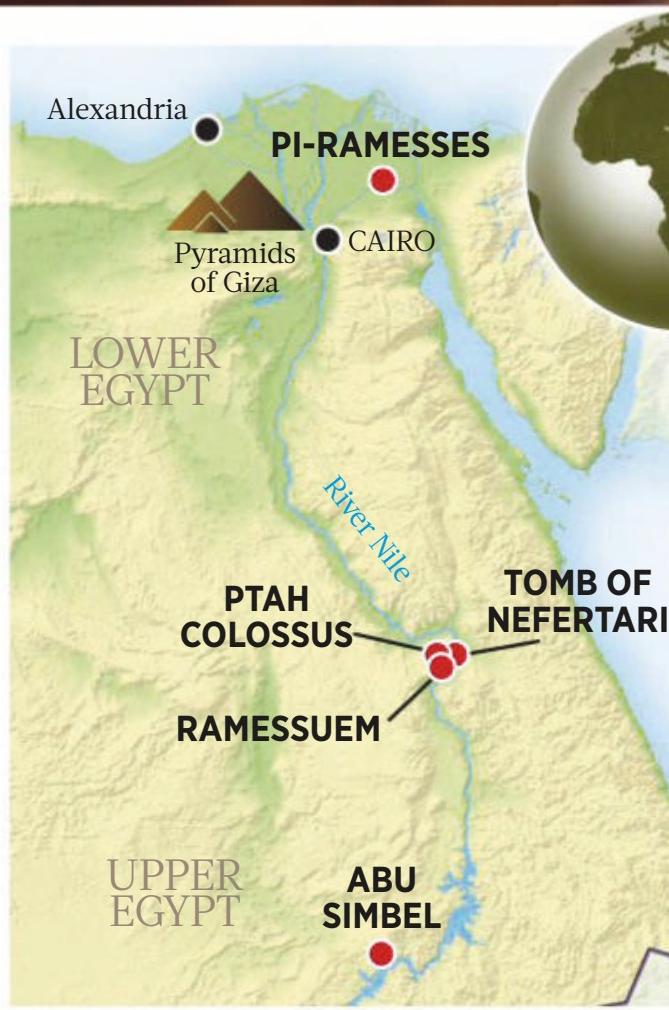


Abu Simbel

The two temples at Abu Simbel were carved into sandstone cliffs as a tribute to Ramesses II and his wife Nefertari. Four statues of the Pharaoh flank the entrance to the larger of the two, the Great Temple (left), so there can be no doubt as to who it belonged to. Twice a year, at sunrise, the inside of the Great Temple is illuminated, revealing the figures of Ptah of Memphis, Amen-Re of Thebes, Ra-Horakhty of Heliopolis and a deified Ramesses of Pi-Ramesses. In the 1960s, the temples were relocated 60 metres to protect them from the rising Nile.

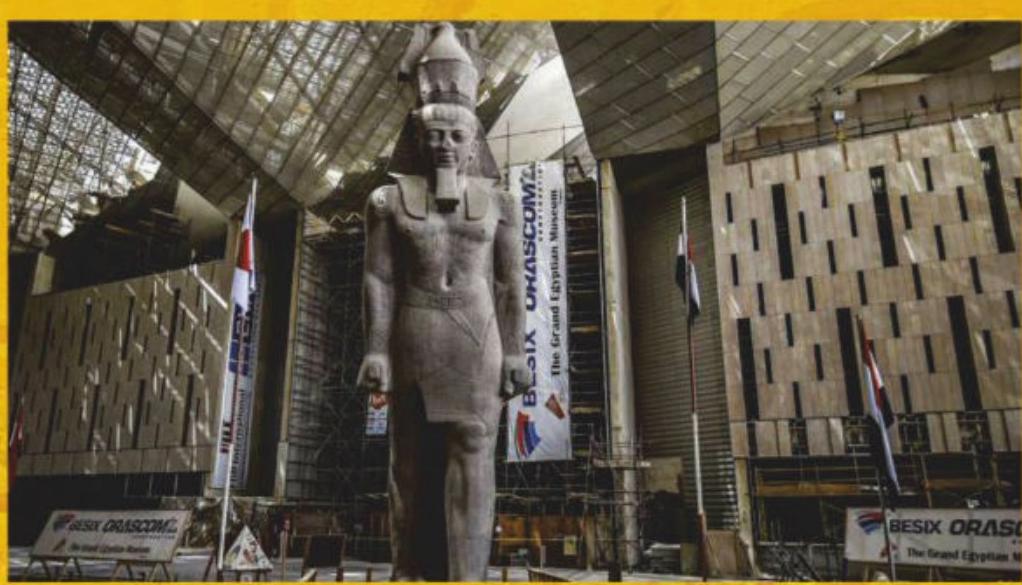
Ramessuem

The funerary temple of Ramesses II in Thebes was dedicated to the king of the gods. The walls are covered in reliefs documenting the Battle of Kadesh, as well as the Pharaoh's other achievements. A colossal granite head of Ramesses that once stood at the doorway of the temple, known as the Younger Memnon, is now in the British Museum.



Pi-Ramesses

Seti I built a palace on the site of Pi-Ramesses – now thought to be the modern-day village of Qantir. When Ramesses II ascended the throne, he moved Egypt's capital there, creating a magnificent city full of lakes and lush trees. It was later superseded by the city of Tanis when its branch of the Nile silted up.



The Ptah Colossus

Near the ancient city of Memphis, temples were constructed for the creator-god Ptah. Next to one of these temples, Ramesses had a colossal red granite statue of himself built. The 11-metre statue was found in 1820, broken into pieces. It has since been reconstructed and moved to Giza, in anticipation of the planned Grand Egyptian Museum due to open in 2020.



The tomb of Nefertari

Situated in the Valley of the Queens, Luxor, the tomb of Ramesses II's first wife is one of the most exquisite tombs in all of Egypt. Nefertari was buried in a red granite tomb and surrounded by colourful scenes of her amongst the gods, emphasising her beauty. Looting over the years means that only fragments of her tomb remain, and of her mummy only her knees have been recovered.

Though he claimed divinity, Ramesses' mummy revealed that he had poor circulation and arthritis



"His near defeat was spun into a masterful retelling of victory, applauding the fearless king"

chariots scattering before my horses. Not one of them could fight me. Their hearts quaked with fear when they saw me and their arms went limp so they could not shoot."

What is likely is that the Egyptians had the superior technology that was better suited to the environment, in the form of lighter, more mobile chariots. What's more, the forces that had been left in Amurru unexpectedly arrived, forcing the Hittites to retreat. With the armies on opposing sides of the river, a truce was negotiated – though both sides claim it was the other who pleaded for peace. Though victory was a close-run thing, you wouldn't have thought it on Ramesses' return. His near defeat was spun into a masterful retelling of victory; accounts subsequently inscribed on temples across his kingdom all applaud the fearless warrior king.

"His Majesty was confident, an unstoppable fighting force," reads one. "Everything near him was ablaze with fire – all the foreign lands were blasted by his scorching breath. He slaughtered all the troops of the doomed Hittite, his nobleman and his brothers, along with the chiefs of all the countries which had supported him. His infantry and chariotry fell on their faces, one on top of the other. His majesty struck them down and killed them where they stood."

THE FIRST PEACE

Ramesses returned victorious, but he still hadn't retaken Kadesh – the city remained in Hittite hands, and their accounts recall a humiliated Ramesses being forced to retreat. Several local rulers were inspired by the battle to try and take on the Pharaoh, forcing him to reassert his power in Syria, Amurru and Canaan, and over

the next few years he regained several cities and regions that had previously been lost.

The unexpected death of the Hittite King Muwatalli in c1272 BC prompted a succession crisis that wasn't fully resolved until c1267 BC, when Muwatalli's brother, Hattusilis, staged a coup against his nephew, Urhi-Teshub. Urhi-Teshub sought refuge in Egypt, leading to a diplomatic crisis when Ramesses denied all knowledge of his whereabouts to Hattusilis. War was nearly resumed, forestalled only when the two rulers realised that the Assyrians were becoming a greater threat than either were to each other. Sixteen years after the Battle of Kadesh, they negotiated a treaty to respect each other's territory and defend each other against attack. This treaty is believed to be the earliest surviving peace treaty in the world and the only ancient Near East treaty where both sides of the agreement still exist.

As Ramesses' reign went on, his building campaigns seemed to decline – economic uncertainty in Egypt is hinted at as a possible reason. In Ramesses' later years, his eldest surviving son, Merenptah, began taking on royal duties and was pharaoh in all but name during the last decade of his father's life. Ramesses II is believed to have died in the August of his 67th year of rule, at the age of 91.

Tablet of the 'Treaty of Kadesh', negotiated between Ramesses II and the Hittites

He was buried in the Valley of the Kings, but was later moved due to the risk of looting. In 1881, his mummy was found in a secret cache at Deir el-Bahri in the Theban Necropolis, and he now lies in the Museum of Cairo. In 1974, Egyptologists noticed that his mummy was deteriorating so he was flown to France to be examined. Ramesses was issued with a passport which listed his occupation as 'king (deceased)', and he was given full military honours when the plane touched down. Tests on his mummy revealed he had red hair – an unusual physical trait in Egypt which would have reinforced the idea of his godliness.

Whether those he ruled actually believed he was a god or not, Ramesses II's legacy lived on well past his death. Nine more pharaohs would take the name of their great ancestor – showing that whatever the true story was, he was divine to the people of Ancient Egypt. ☺

GET HOOKED

LISTEN

4 Neil MacGregor explores the achievements of Ramesses II through the British Museum's giant statue of him on episode 5 of *A History of the World in 100 Objects* on BBC Radio 4 www.bbc.co.uk/programmes/b00qg5mk



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D-DAY AND THE BATTLE FOR NORMANDY

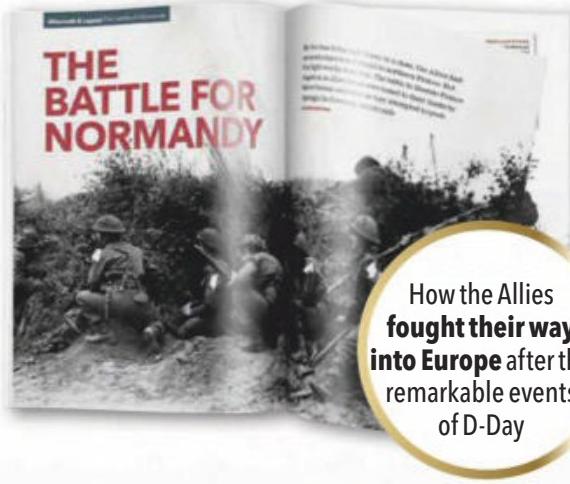
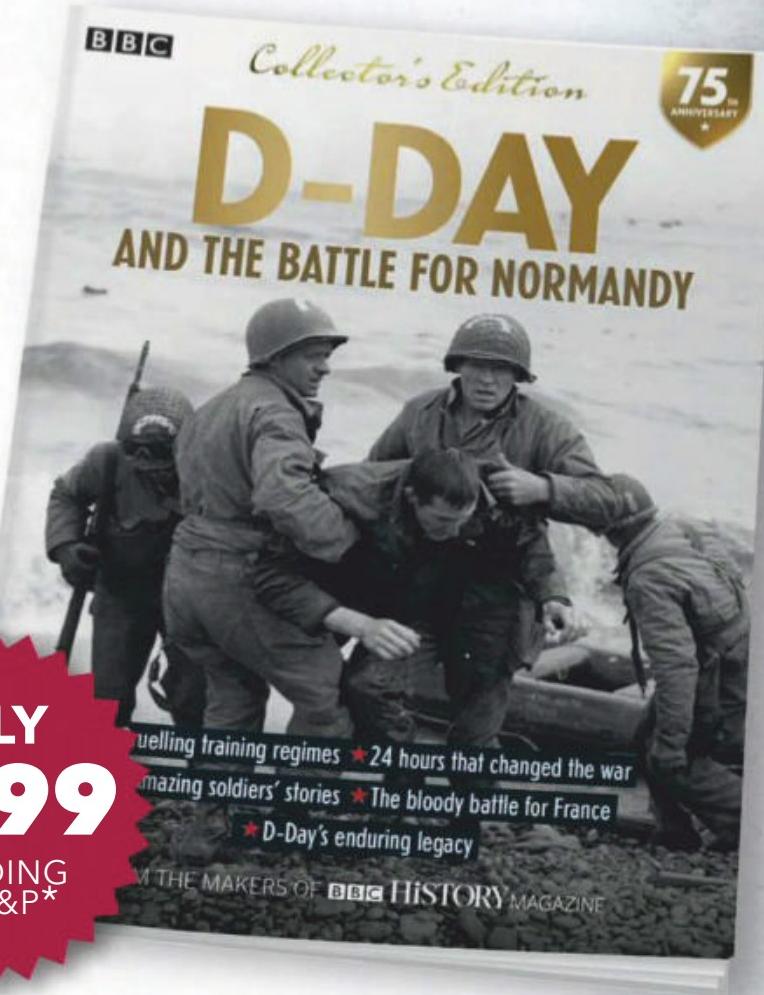
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RED SUMMER OF 1919



Entire neighbourhoods in Chicago's south side were burned to the ground during the riots of 1919

CHICAGO'S DARKEST DAYS



Stonings in the street, houses aflame, families dispossessed. **Spencer Mizen** takes us back to Chicago 1919, when institutionalised racism, postwar tensions and mass migration ignited an outpouring of hate against black Americans

It's the weekend. The Sun is shining. Temperatures are soaring. Children are heading to the beach and playing in the water. In normal circumstances, these would hardly be the ingredients for one of the worst outbreaks of violence in a nation's history. But then, Chicago in 1919 was no normal city.

For months, tensions between the Illinois metropolis's black and white communities had been running high. Resentments had simmered, insults had been thrown, fights had broken out. And now, as the mercury topped 30°C, those tensions spiralled out of control.

On 27 July 1919, an African-American teenager called Eugene Williams went for a dip in Lake Michigan, the massive body of water on which Chicago sits. While playing in the water, Williams swum towards a floating railway sleeper taking him towards a nearby beach.

Today, this seems an unremarkable thing to do. But, a century ago, Williams was drifting towards trouble – because the beach he was heading for had been informally declared a 'whites only' one. African-Americans were definitely not welcome, and the white occupants of the beach signalled as much by greeting Williams with a barrage of stones.

What happened next turned a flashpoint into a tragedy. A witness recalled seeing a white male standing on a breakwater and hurling rocks out into the water. Williams was struck on the forehead, panicked and lost his grip on the sleeper. Within a few minutes he had drowned.

BAD BLOOD

Williams's death would have caused serious repercussions even in the most harmonious of cities. In one as febrile as 1919 Chicago, it was like putting a match to a powder keg. An angry crowd of African-Americans soon arrived at the scene, their anger escalating when the police reportedly refused to arrest the perpetrator. A fight erupted – and then James Crawford, a black man, fired into the police officers before he was himself shot by a policeman.

According to a report later published by the Chicago Commission on Race Relations, the black mob began venting its fury at what it had just witnessed on the city's white residents. Over the next few hours, four were beaten, five stabbed, one shot.

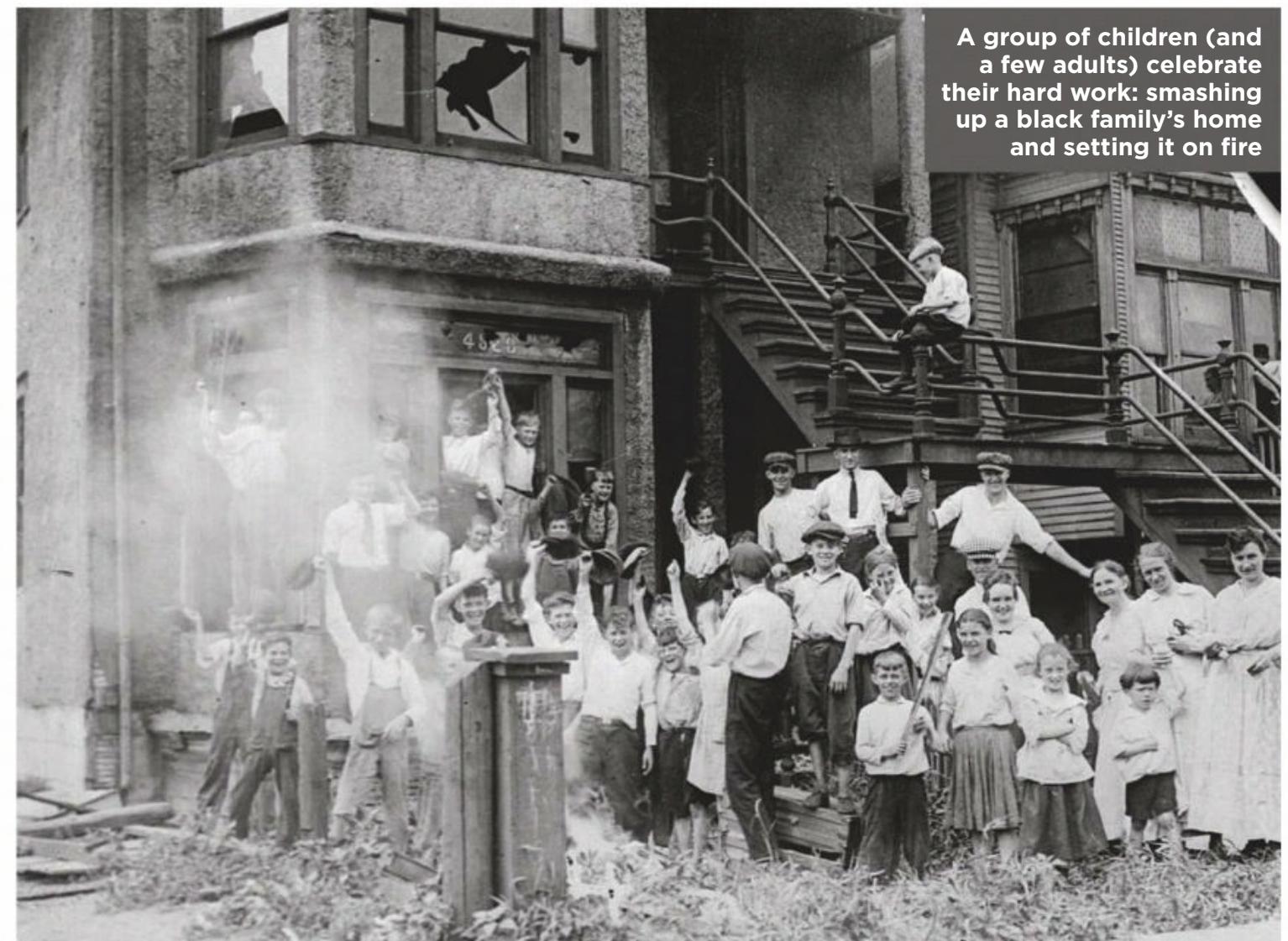
But the report revealed a response of even greater ferocity. "As darkness came on", it stated, "white gangsters



largest and most rapid mass internal movements in history", and the impact on large industrial cities like Chicago was significant. Between 1909 and 1919, the city's black population rose from 44,000 to more than 100,000, and the vast majority of the new inhabitants

The riot began at the 'whites only' beach on 29th Street after Eugene Williams was killed

"White men had left their jobs for WWI and returned to find them taken by black workers"



A group of children (and a few adults) celebrate their hard work: smashing up a black family's home and setting it on fire

became active. Negroes in white districts suffered severely at their hands. From 9pm to 3am, 27 negroes were beaten, seven were stabbed and four were shot." These were the opening blows of what Gary Krist, author of a book on Chicago's tragic summer of 1919, described as an "orgy of violence that was really revolting in many ways. The police seemed incapable of doing anything about it".

What happened next would arguably become the worst outbreak of civil disorder in the Red Summer of 1919, when the US was convulsed by race riots and fears of communist revolution. By the time the violence in Chicago fizzled out on 3 August, 38 people had died and more than 500 had been injured.

The Chicago Race Riots may be remembered as a visceral, spontaneous expression of rage. But this was a disaster with many roots, encompassing institutionalised racism, depredation, the mass movement of people, and the impact on American society of World War I.

Perhaps the best place to start when examining these roots is not Chicago itself but the network of roads and railway lines linking the city to a patchwork of mainly rural communities in the American south. For decades, these communities had been home to more than 90 per cent of America's black population. That statistic was to change dramatically in the first decades of the 20th century, thanks to something now known as the Great Migration; an exodus that saw millions of African-Americans heading to towns and cities in the north, east and west – many fleeing segregation, discrimination, disenfranchisement and lynchings often perpetrated by a resurgent Ku Klux Klan.

It was, in the words of the American academic Nicholas Lemann, "one of the

congregated in the cramped streets and dilapidated houses of the city's south side, subsequently known as the 'Black Belt'.

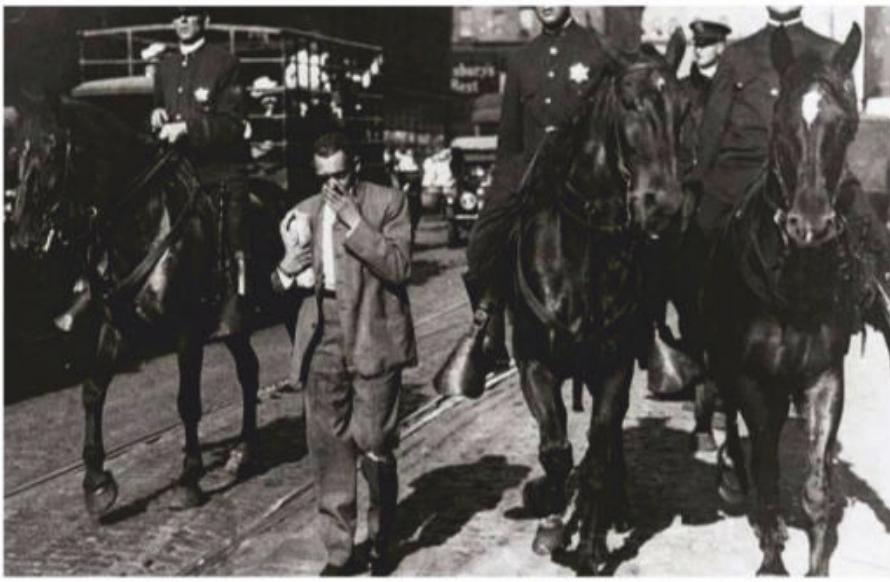
THE PRICE OF WAR

In many ways, Chicago must have appeared an appealing destination for black migrants. Institutionalised racism was less endemic than in most southern cities, job opportunities were provided by the city's huge stockyards and meatpacking plants – and workers were needed to replace those men called away to fight in World War I.

But if anyone believed that Chicago's white population and their new black neighbours would live happily side by side, they were in for a rude awakening.

One source of rising racial tension was the fact that many African-American workers weren't members of unions and were sometimes called in as strike-breakers. Another was the power of ethnic Irish gangs in Chicago. As the first major group of 19th-century European immigrants to settle in the city, the Irish had established formidable formal – and informal – political strength in the city, and guarded that power jealously.

Irish gangs, among them the notorious Hamburg Athletic Club, had long patrolled their neighbourhoods against other ethnic groups, such as immigrants hailing from eastern Europe. But now, with so many African-Americans arriving in the city – many



of them competing with Irish-Americans for housing and jobs – it wasn't long before gangs were attacking black communities.

If the competition for jobs and housing was intense during World War I, it became even more acute when the conflict ended and thousands of troops began returning home. White veterans who'd left their jobs for war, and returned to find them taken by black workers, seethed with resentment. But black war veterans had cause for bitterness too. As one black soldier put it, African-American veterans had made "the supreme sacrifice" and "now we want to see our country live up to the constitution and the declaration of independence".

Through their pain and sacrifice in Europe, they believed they had

ABOVE: Police guided (though some say herded) Chicago's African-Americans to safe zones during the unrest

THE RED SUMMER

Chicago was just one of a slew of race riots, predominantly between April and October 1919 in the south and east of the country, that are collectively known as the Red Summer. After Chicago, these were three of the most serious



WASHINGTON, DC 20-23 JULY

Thirty-nine people died and more than 100 were injured when rumours that a black man had sexually assaulted a white woman exploded into an all-out war. The violence began with white war veterans – fired up by news of the alleged assault – roaming an impoverished black neighbourhood handing out lynchings. Soon the city's African-Americans would fight back, killing 10 white residents in just one night. The bloodshed continued for four days until a combination of heavy rain and 2,000 military servicemen – sent in by President Woodrow Wilson – brought the violence on his doorstep to an end.

OMAHA, NEBRASKA 28-29 SEPTEMBER

The Omaha race riot was one of the Red Summer's grisliest episodes. The violence erupted when a black man, Will Brown, was accused of raping a white 19 year old, Agnes Loebek. Brown was taken to Douglas County Courthouse, swiftly followed by a white mob of thousands demanding retribution. The rioters overpowered the police and seized Mayor Edward Parsons Smith, a political

opponent of one of the rioters' ringleaders, and attempted to hang him. Only a dramatic intervention by police officers saved the mayor's life.

For Brown, however, there would be no escape. He was captured, lynched and his lifeless body hanged from a telephone post. Then the body was burned and its charred remains dragged through the city's business district for hours. Nobody went to prison for his killing.

ELAINE, ARKANSAS 30 SEPTEMBER-1 OCTOBER

The unrest that blighted Elaine, Arkansas, might be more accurately called a massacre. Around 200 African-Americans, along with five white people, were killed when a white mob numbering up to a thousand went on the rampage.

By 2 October, US Army troops had been sent in and the mob began to disperse. But that didn't bring the black population's suffering to an end – many African-Americans were rounded up in stockades and there were accusations of torture. In the aftermath, 122 African-Americans were charged with crimes related to the riots. Not one white person faced justice.

earned the right to equality – and, if that wasn't forthcoming, they were increasingly prepared to fight for it. For many, it wasn't forthcoming – African-Americans continued to live in dilapidated, squalid housing, were still demonised by their white neighbours, and widely barred from political power.

MALICIOUS AMUSEMENT

As the Sun beat down on Chicago on Monday 28 July 1918, the day after Eugene Williams's death, these many grievances started to play out across southern Chicago – with terrible consequences for the city's white population. For their black neighbours, the pain would be far worse still.

The violence from the night before had temporarily dampened down and the morning rush hour of 28 July passed off relatively peacefully. But then the atmosphere turned toxic once more. According to the Chicago Commission on Race Relations report, "as the afternoon wore on, white men

and boys living between the stockyards and the Black Belt sought malicious amusement in directing violence on Negro workers returning home". White gangs flooded into tram stops, dragging black passengers out and beating and kicking them.

Elsewhere, a white laundryman was set upon by a black gang and stabbed to death. Then a rumour spread that a white man had shot a black boy from the fourth-floor window of a building. At that, a black mob converged on the building in search of revenge. A brick was thrown. Later, police fired a volley of bullets into the crowd, killing four.

Nightfall brought little respite to the mayhem. White gangs drove cars through black areas at high speeds, firing shots at anything that moved. They were increasingly met with fire from black shooters holed-up behind barricades.

Within 36 hours of Eugene Williams's death, it was already clear that Chicago was in the midst of one of the darkest incidents in its history – and media reports of the events certainly did little to quell the hatred between the black and white communities.

Even newspapers with a primarily African-American audience were, it seems, guilty of stoking the fires of hatred.

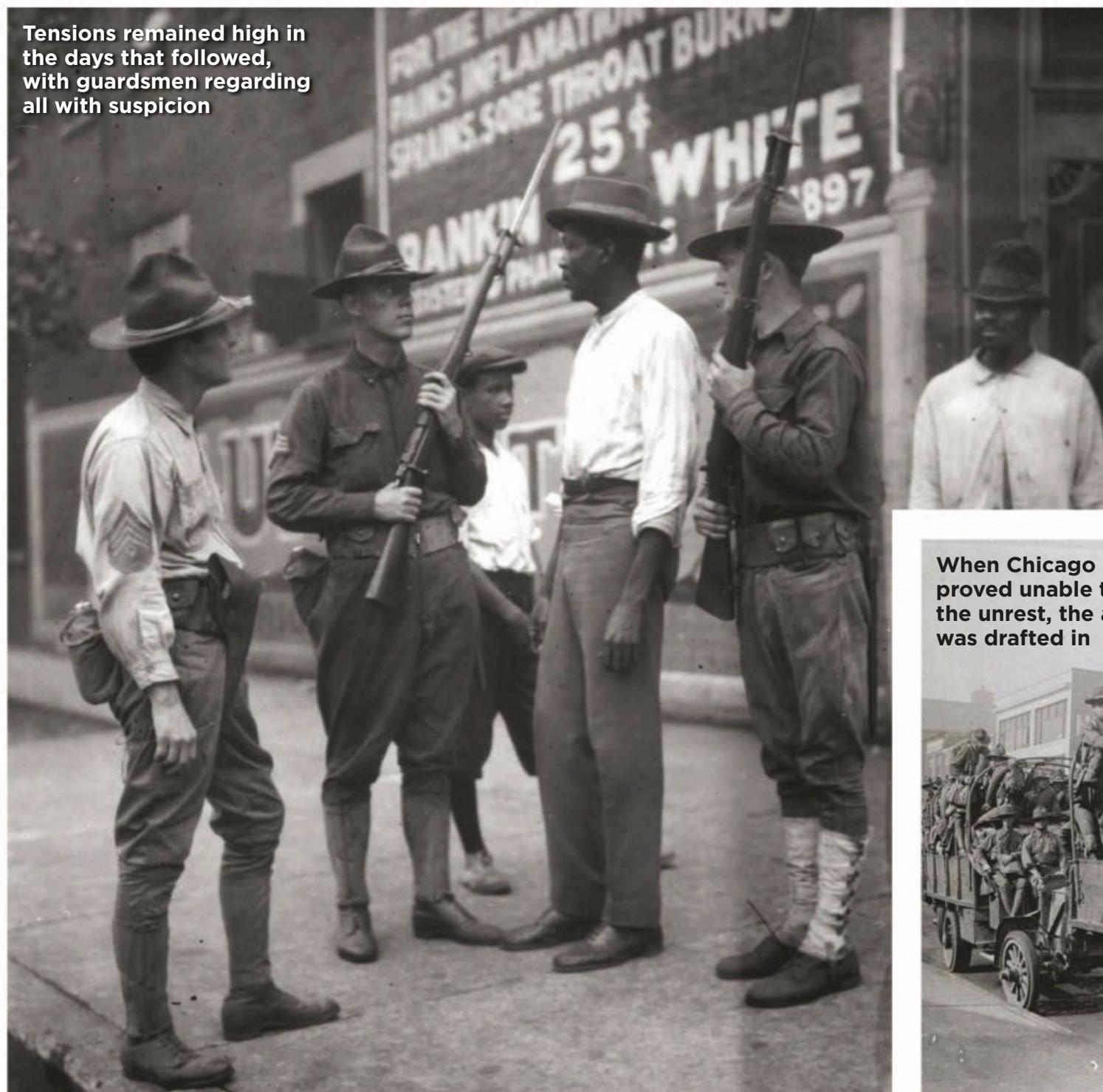
The Chicago Defender claimed that a white mob killed a black woman attempting to board a car, cutting off her breasts and displaying them on a pole, and beating her "baby's brains out against a telephone pole".

This wasn't true but, by Tuesday, such was the level of violence, the *Defender* hardly needed to exaggerate. That day, a gang of white soldiers and sailors, aided by civilians, raided the Loop, a downtown section of Chicago, killing two black men, and beating and robbing several others. Meanwhile, white gangs were burning black homes and dragging black service industry workers out of restaurants and beating them in the streets.

In one particularly grisly incident, a black cyclist was knocked off his bike and dragged into a street from the basement where he had tried to hide. Here, according to one report, a mob "riddled his body with bullets, stabbed him and beat him".

"White gangs were beating black service industry workers in the streets"

Tensions remained high in the days that followed, with guardsmen regarding all with suspicion



When Chicago police proved unable to quell the unrest, the army was drafted in





Chicago's police stations soon became triage centres for the wounded

As the nation looked on in growing horror, William Hale Thompson, mayor of Chicago – who had thus far resisted calling in outside help – finally relented and ordered in 6,000 Illinois Army National Guard troops.

"Within hours there were thousands of troopers heading into the streets with howitzers and rifles and bayonets – and they met a lot of resistance," wrote Krist. "A lot of the athletic clubs put up a fight, but really within 24 hours they had more or less restored order."

By 3 August – seven days after Eugene Williams had gone for his fateful swim in Lake Michigan – the riot had fizzled out. But with many dead, swathes of southern Chicago in ruins and President Woodrow Wilson publicly blaming the city's white residents for the violence, this wasn't an incident that the city could move on from in a hurry.

SEEKING RESOLUTION

It was amid the soul-searching that the authorities tasked the Chicago Commission on Race Relations – made up of six black men and six white – with

producing a report on the riots. That report – which addressed everything from institutionalised racism and poor housing options through to inconsistent law enforcement – has been hailed as an extraordinary effort at cross-racial collaboration, research and resolution.

But critics have pointed out that little was done to improve the lot of Chicago's black population in the wake of its publication. Most of the deaths were not even prosecuted and, while one man was charged with Williams's death, he was acquitted.

Some have argued that, if anything good did come out of the carnage of late July and early August 1919, it's that it highlighted to wider America the injustices faced by its black population. It's also been argued that 1919 marked the beginning of a growing willingness among African-Americans to fight for their own rights in the face of injustice.

Whether that's true or not, the race riot continue to loom large in Chicagoans' imagination in the 21st century. As one black Chicagoan,

BLACK SOLDIERS IN WORLD WAR I

If anyone deserved his nomination for a Medal of Honor, then surely it was Sergeant William Butler. In the trenches of France, the African-American soldier singlehandedly took on an enemy raiding party, killing 10 Germans, taking a German lieutenant prisoner and freeing a number of American prisoners.

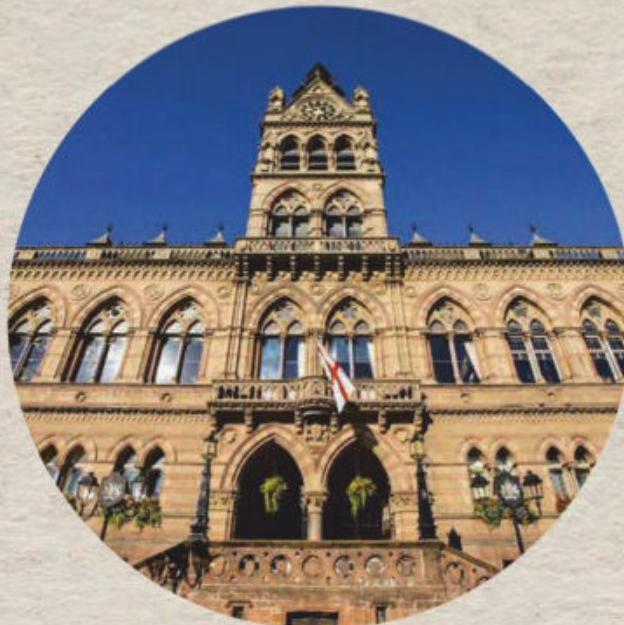
Butler was clearly a remarkable soldier, but he wasn't alone. Of the 380,000 African-Americans who served their country during World War I, many did so with distinction. One example was the 369th Infantry Regiment, known as the 'Harlem Hellfighters', which was posted to the front line for six months – longer than any other American unit in the war. In recognition of its efforts, a grateful French government awarded the entire unit the Croix de Guerre, its highest military honour.

Many of the black soldiers who enlisted did so on the advice of black intellectual WEB Du Bois, who believed that a sizeable African-American contribution to the conflict would advance the cause of civil rights back home. As it turned out, these hopes were largely frustrated. Black soldiers were forced to train in segregated camps, banned from the Marines and – as many military leaders doubted they had the physical, mental or moral character to withstand warfare – were widely relegated to labour-intensive service positions. This perhaps explains the observation, made by Joel Spingarn of the National Association for the Advancement of Colored People, that "every colored soldier that I have talked with in France, Germany or America has a grievance".



Though heroes to the French, the Harlem Hellfighters faced intense racism in the US, even after the war

Dempsey Travis, wrote in his *An Autobiography of Black Chicago*: "I was never permitted to learn to swim. For six years, we lived within two blocks of the lake, but that did not change [my parents'] attitude. To Dad and Mama, the blue lake always had a tinge of red from the blood of that young black boy." ◎



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HAPPY PLANTS AND LAUGHING WEEDS

The hidden history of drug use in antiquity

Did the people of the ancient world use – and abuse – drugs? They certainly did. Yet you would hardly know it from reading ancient texts, as Philip Matyszak explains

Hemp, as illustrated by Greek physician Dioscorides. He recommended it for treating ear pain and suppressing lustful urges



Depictions of opium poppies occur frequently in carving and sculpture across ancient cultures, appearing on both this Greek funerary stele (left) and Neo-Assyrian relief from the palace of Sargon II (below)



The few references to drug taking in the ancient world that do exist are few and far between. Where they do appear, drugs are mentioned in passing, and focus on medicinal and religious aspects, passing hastily over any recreational use. Yet there was an international drug trade as far back as 1000 BC, and archaeology has combined with science to clarify a picture that seems to have been carefully obscured by ancient writers and their later translators.

There were more than a dozen ways of altering reality in the ancient world of the Mediterranean, but two drugs dominated – opium and hemp. Careful investigation over the past two decades has begun to reveal patterns in the use of these drugs, previously unsuspected even by 20th-century Classical historians.

OPIUM'S EMERGENCE

One of the first clues that the ancients considered the poppy to be more than just a pretty plant comes from its prevalent use as a motif on statues and engravings. Archaeologists have found that, as early as 1600 BC, little flasks were being made in the shape of poppy 'capsules' – the bulging ball under the flower's petals that yields opium. The shape of these artificial capsules allowed for a reasonable guess as to what was contained within, but until recently it was impossible to be certain.



"Opium could be purchased as small tablets in specialist stalls in most Roman marketplaces"



In 2018, the journal *Science* reported that new techniques for analysing the residues in excavated capsules had revealed that the plant material within contained not just opium, but sometimes other psychoactive substances. These jars and capsules have been found throughout the Levant, Egypt and the Middle East. Their uniformity suggests that they were part of an organised system of manufacture and distribution.

Yet even earlier, opium was grown in Mesopotamia. Some researchers have no doubt that the Assyrians were aware of the plant's properties. Indeed, the Assyrian name of the poppy can be read (depending how one interprets the cuneiform tablets which mention it) as *Hul Gil*, meaning 'Happy Plant'.

Jugs containing opium residue have also been found in Egyptian tombs, which is unsurprising given that the poppy was extensively cultivated in Egypt. In the Classical era, the extract of the plant was known as 'Opium Thebiacum' after the city of Waset, which the Greeks knew as Thebes. Another version was named Opium

Cyrenaicum, a slightly different version of the plant, grown to the west in Libya.

SLEEP ETERNAL

There is a highly suggestive passage in Homer's *The Odyssey*, in which Helen of Troy dopes wine with a drug "that took away painful memories and the bite of pain and anger. Those who took this drug dissolved in wine could not shed a tear even at the death of a parent. Indeed not even if his brother or son were put to the sword before his eyes". This drug, said Homer, had been given to Helen by Polydamna, wife of Thon – a woman of Egypt.

The name Thon is significant, because the Roman doctor Galen reports that the Egyptians believed that the use of opium was taught to mankind by the similarly named god Thoth. The Greek writer Dioscorides describes his harvesting technique: "Those who make opium must wait until the dew has dried away to cut lightly with a knife around the top of the plant. They take care not to cut the inside. On

the outside of the capsule, cut straight down. As fluid comes out wipe it with a finger onto a spoon. Returning later one can harvest more of the residue after it has thickened, and yet more the following day."

Dioscorides also warns against overdosing. "It kills," he says bluntly. In fact, many Romans purchased opium for just that reason. Suicide was no sin in the Roman world, and many people suffering from old age and disease chose to instead float from life on a gentle wave of opium. It is unlikely that the Greek divinities Hypnos (the god of sleep) and Thanatos (his twin brother, the god of death) are both depicted with wreaths or bouquets of poppies by coincidence. Opium was a common aid to sleep while, writes Greek philosopher Theophrastus, "from the juice of the poppy and hemlock comes easy and painless death".

The Romans used an opium-based drink called 'cretic wine' as a sleep aid, and also 'mekonion' from poppy leaves – which was less potent. The opium could be purchased as small tablets in specialist stalls in most marketplaces. In the city of Rome itself, Galen recommends a retailer just off the Via Sacra near the Forum.

In Capua, drug sellers occupied a notorious area called the Sepplasia, after which 'Sepplasia'



Jugs like these were used to transport opium from Cyprus's fields to the markets of Egypt

became a general name for mind-altering drugs, perfumes and unguents. Cicero makes a tongue-in-cheek reference to this, remarking of two dignitaries: "They did not display the moderation usually found in our consuls ... their gait and behaviour were worthy of Sepplasia."

MORE THAN OLD ROPE

Hemp has a longer history than opium, brought to Europe before records began. It came from Central Asia along with the mysterious Yamnaya people, and the plant has been in northern and central Europe for over 5,000 years. Doubtless it was appreciated for its uses in making rope and fabric, but braziers have been found containing charred cannabis, which shows that the less practical aspects of the plant were also explored. It is known that the Chinese were cultivating cannabis significantly stronger than the wild plant at least 2,500 years ago, and both the product and knowledge of how to make it would have travelled along the Silk Road.

In the Middle Eastern city of Ebla, in what is now Syria, archaeologists found what appears to have been a large kitchen not far from the city palace. There were eight hearths used for preparations, and pots capable of containing up to 70 litres of finished product.



Doping wine – for pleasure or profit – was not unheard of in Ancient Rome and Greece



Cannabis residue found in this ancient Chinese funerary brazier suggests the drug played a part in rites for the dead

BEYOND WINE

SIX MORE WAYS THE ANCIENTS ALTERED THEIR REALITY

ERGOT

Known of as early as 600 BC, Ergot was not taken voluntarily. The fungus was common in rye and sometimes found in other cereals, causing delirium, hallucinations and – frequently – death.



BLUE LOTUS

Immortalised in Homer's *The Odyssey*, in which the titular hero has to drag his crew from the 'land of the lotus eaters'. The psychoactive alkaloid in blue lotuses causes mild euphoria and tranquillity, combined with increased libido.



MAD HONEY

Honey from rhododendron flowers contains neurotoxins that cause altered consciousness, delirium and nausea. It was taken recreationally in Ancient Anatolia and occasionally by careless beekeepers elsewhere.

HENBANE

Pliny described the effects of this plant as similar to drunkenness, when either breathed as smoke or ingested. It was typically taken as part of a cocktail of hallucinogenics for magical or medicinal purposes.

DEADLY NIGHTSHADE

Poets such as Ovid suggest that witches used nightshade in spells and potions. While the most common symptom following consumption is death, carefully measured doses can result in hallucinations that last for days.

DREAMFISH

Native to the Mediterranean, this species of sea bream produces vivid hallucinations when eaten, and may have been consumed in Ancient Rome.





Dioscorides knew a lot about opium and cannabis – and medicinal plants in general. His pharmacopeia *De Materia Medica* was considered essential reading until the Renaissance



The Scythians inhaled their hemp during steam baths

anthropologist, as well as the world's first historian – remarks that they made garments of hemp so fine that it was impossible to distinguish them from linen.

"The Scythians thereafter take seeds from the hemp and throw them on red-hot stones, where [they smoulder] and give off fumes," writes Herodotus. "They cover this with mats and crawl under while fumes emerge so densely that no Greek steam bath could produce more. The Scythians howl with joy at their vapour bath."

BLIND TO THE TRUTH?

This passage is rather typical of mentions of drug usage in the ancient world. Was Herodotus really so naive that he didn't recognise the drug's influence? Or was there a taboo about discussing the subject – either in the Classical world or in the monasteries where the ancient texts were copied and preserved?

It seems strange that while archaeological finds suggest recreational drug use was far from uncommon in antiquity, all references to it are at least as oblique as that of Herodotus, and vanishingly rare in even such cases.

Even medicinal uses of cannabis are hard to find in ancient texts – but are being found now that archaeologists know what to look for. For example, a fourth-century AD Roman tomb of a 14-year-old girl who had died in childbirth was found near the city of Beit Shemesh (near Jerusalem) in the 1990s. A substance found in the skeleton's abdominal area was assumed to be incense, until scientific analysis revealed it to be tetrahydrocannabinol – a component of cannabis. It seems likely that the drug was used to ease the girl's travails, and eventually to aid her passing from life itself.

When it comes to drugs in ancient world, we need to read between the lines – as is the case with so much of history. ◎



"Galen describes how hemp was used in social gatherings as an aid to 'joy and laughter'"



There were no traces of food remnants, as is usually the case in ancient kitchens; analysis of the containers found there leaves little doubt that this room was used solely for the preparation of psychotropic pharmaceuticals. In other words, the ancient world had large-scale drug factories 3,000 years ago.

The Greek physician Dioscorides was also familiar with cannabis and reported that extensive use tended to sabotage the user's sex life, to the point that he recommends using the drug to reduce sexual desire in persons or situations where such impulses might be considered

inappropriate. Another Classical author interested in better living through chemistry was Roman philosopher Pliny the Elder. His *Natural History* lists the properties of many plants, among them "laughing weed", which he says is "intoxicating" when added to wine.

Galen describes how hemp was used in social gatherings as an aid to "joy and laughter". Half a millennium beforehand, Greek historian Herodotus reported something similar.

It appears the Scythian people living near the Black Sea combined business with pleasure. Herodotus – who was an extraordinarily good

GET HOOKED



LISTEN

BBC RADIO 4 Melvyn Bragg discusses the role of narcotics and stimulants in history on an episode of *In Our Time*. www.bbc.co.uk/programmes/p00548ff



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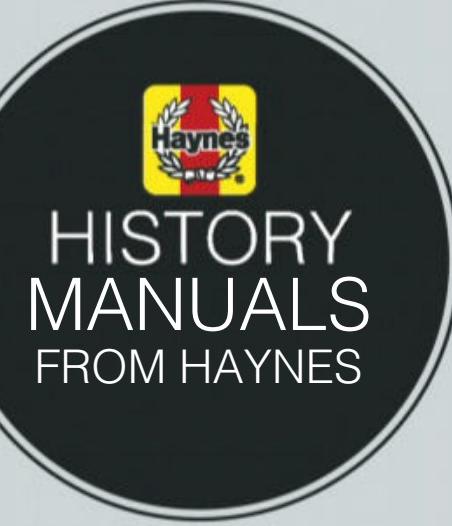


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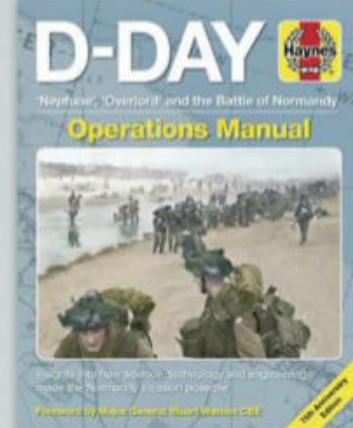


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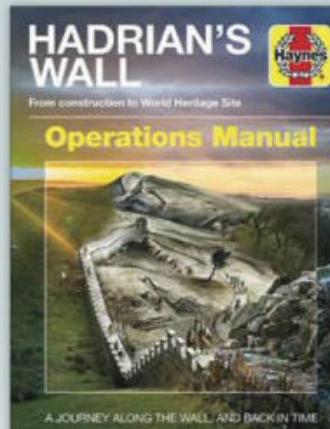
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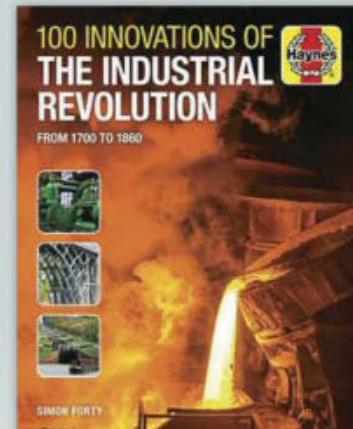
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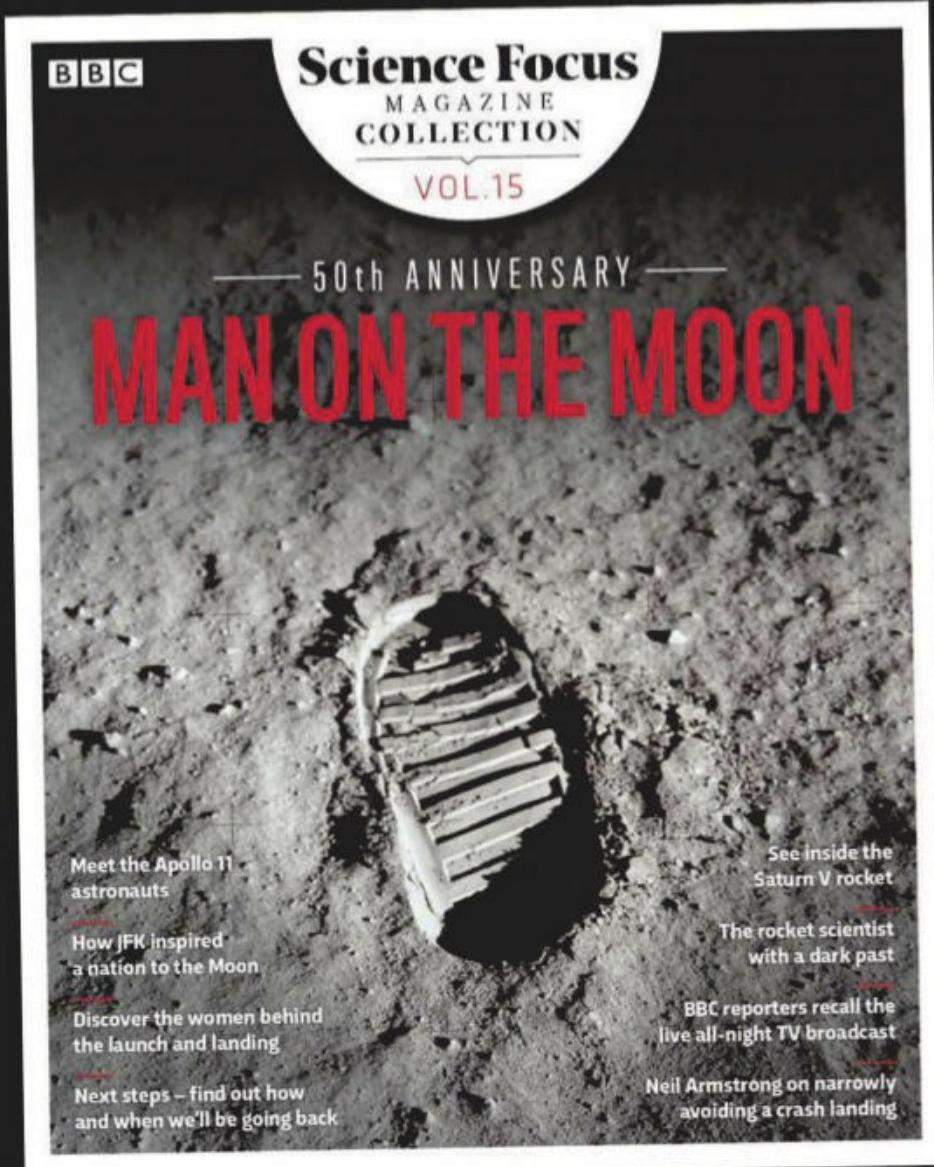
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Q&A

YOU ASK, WE ANSWER



DON'T CALL THEM AZTECS

Seriously, they would have had no idea who you were talking about



DID YOU KNOW?

THE EAGLE HAS LANDED

The Aztec capital of Tenochtitlan was founded in 1325 on a small, swampy island on Lake Texcoco after, according to legend, the Mexica had a vision of an eagle there, perched on a prickly pear cactus and eating a snake. They believed this to be a sign from the gods.

HOW DID THE AZTECS GET THEIR NAME?

 The colossal-city building, human-sacrificing people of Central Mexico we know as the Aztecs didn't call themselves 'the Aztecs'. It wasn't even the name pejoratively thrust upon them by their Spanish conquerors. Instead, the Nahuatl-speaking people were more commonly called the Mexica – although even that is a general

term that doesn't really cover everybody, as the Mexica were just one of several tribes who later became the Aztecs.

It wouldn't be until the 1780 publication of *La Historia Antigua de Mexico* by Francisco Javier Clavijero Echegaray – some 250 years after Cortés – that the term Aztec was established. Why he did so may have been

to distinguish the Mexica from the post-conquest Mexicans who followed in their wake, perhaps drawing inspiration from the fact the Mexica, centuries before, called themselves the Azteca. The new name was popularised when it was adopted by Prussian explorer Alexander von Humboldt in the early 19th century.

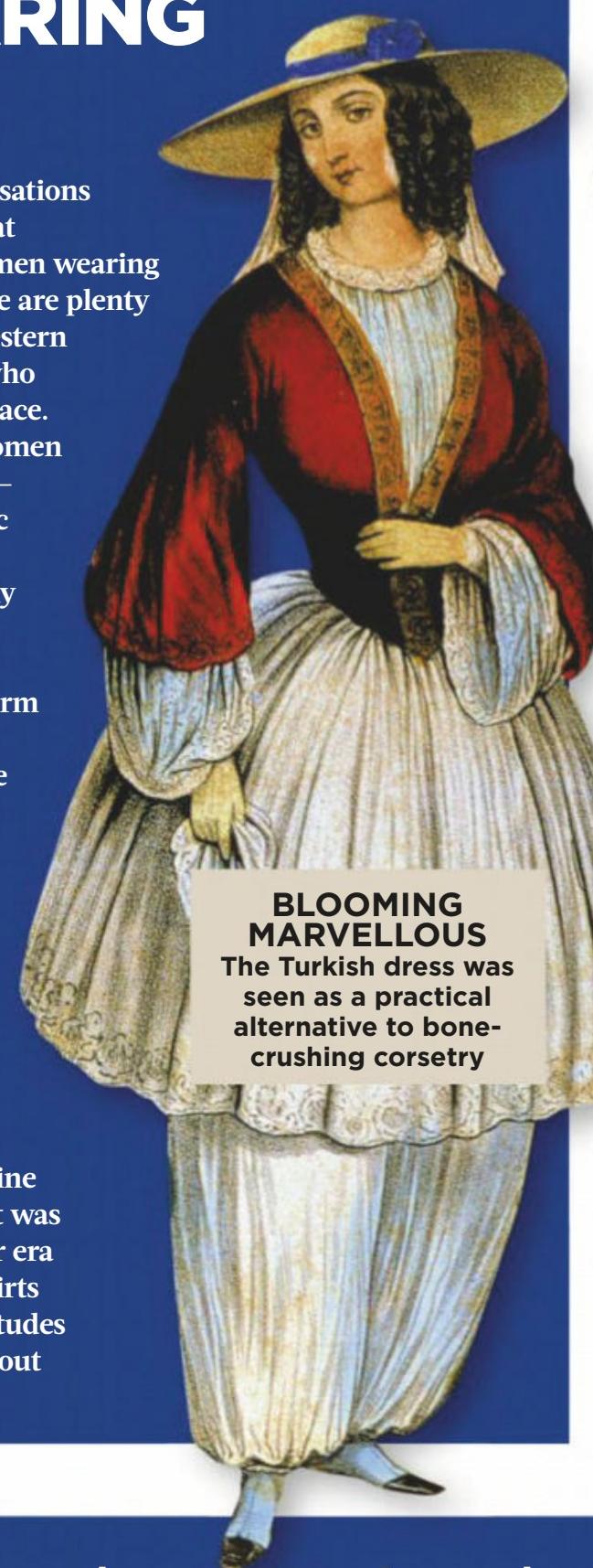
WHEN DID WOMEN START WEARING TROUSERS?

Target In prehistory. There were civilisations throughout human history that survived the scandal of its women wearing trouser-like garments. Of course, there are plenty that found it harder, many of them western societies. Let's not forget, the idiom 'who wears the trousers?' is still commonplace.

It had been custom, even law, for women to wear dresses or skirts for centuries – one of the charges levied at Joan of Arc on her way to the stake in 1431 was crossdressing – and this norm was only seriously challenged in the mid-19th century.

American campaigner for dress reform and women's rights Elizabeth Smith Miller designed a type of trouser in the early 1850s. Her 'Turkish dress' was a skirt to the knees with puffy trouser legs to the ankles. The outfit caught on after being advertised in *The Lily*, a magazine owned by American womens' rights activist Amelia Jenks Bloomer – which is why they quickly became known as bloomers.

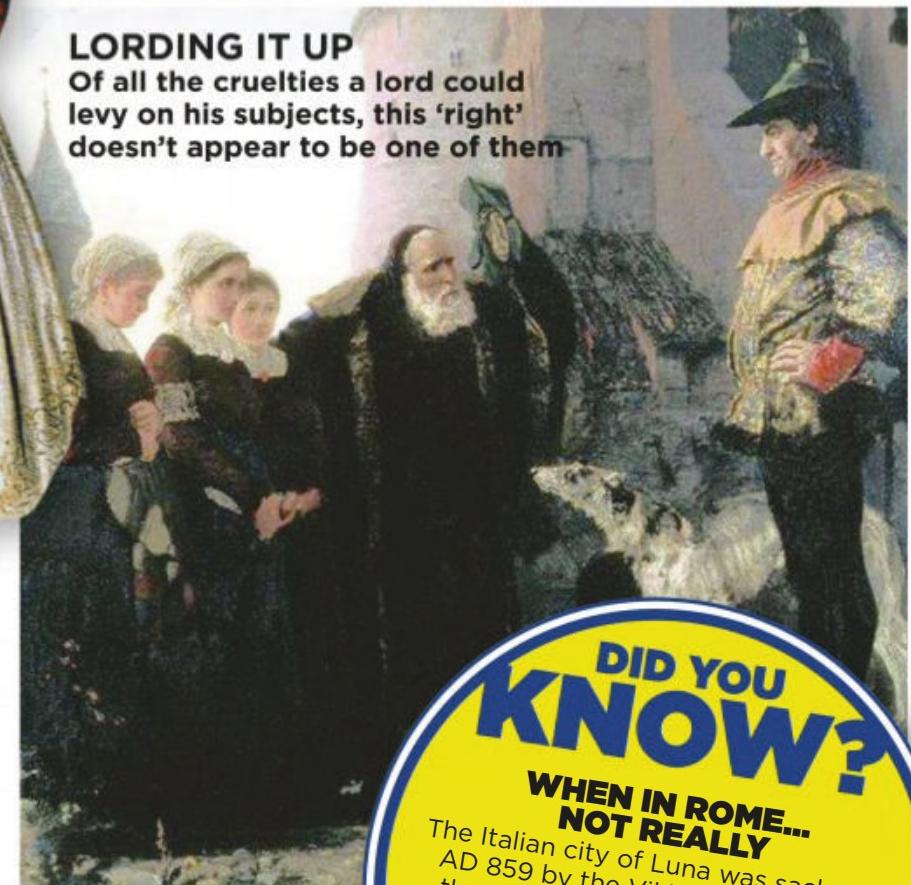
Change was slow, so much so that it was big news every time Hollywood A-listers Marlene Dietrich and Katharine Hepburn wore trousers in the 1930s. It was more than a century after the bloomer era before the trouser designs and miniskirts of the 1960s significantly changed attitudes of what women wore on their legs. About blooming time.



BLOOMING MARVELLOUS
The Turkish dress was seen as a practical alternative to bone-crushing corsetry

Was 'prima nocta' real?

Target The infamous *jus primae noctis*, or 'right of the first night' allowed – we are told – nobles to take a peasant bride into his bed on her wedding night. As seen in the historically iffy 1995 film *Braveheart*. Yet, while references to prima nocta go back as far as the *Epic of Gilgamesh*, from third-millennium BC Mesopotamia, there is no hard evidence of it actually taking place. It's been suggested that if such a heinous right had been invoked as the norm, there would be signs of greater resentment in the peasant population, or an increase in secret weddings, or a huge number of bastard offspring. Such proof is missing. Prima nocta probably endured as a means of making the oppressive elite look even worse.



DID YOU KNOW?

WHEN IN ROME... NOT REALLY

The Italian city of Luna was sacked in AD 859 by the Vikings, but only as they believed it to be Rome. Their leader, Hastein, allegedly pretended to be dying, stating that his last wish was to convert to Christianity. Once he had been let in, he miraculously recovered and let his forces through the gates.

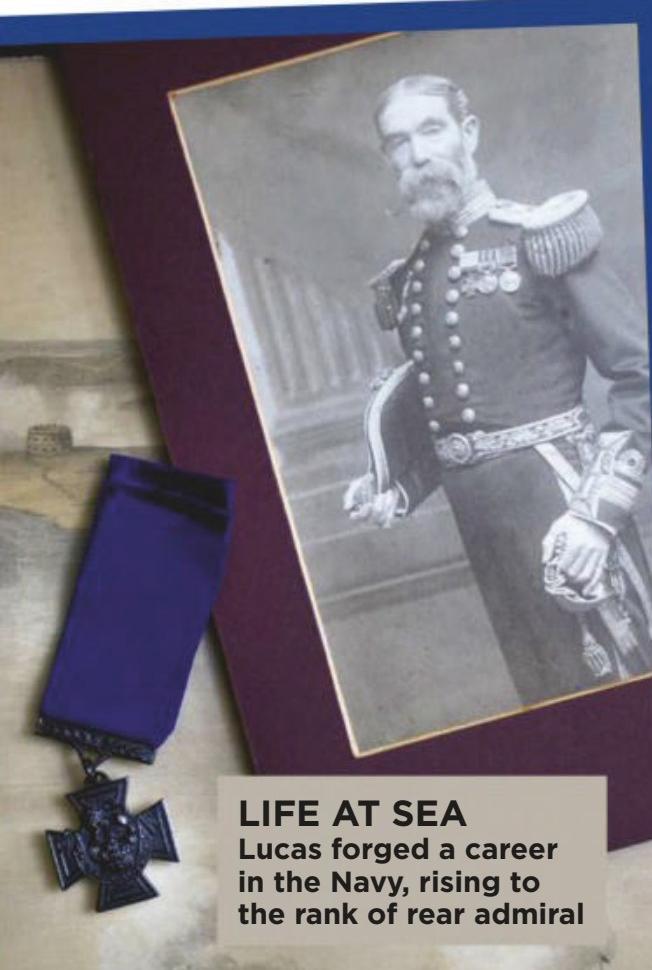
Who received the first Victoria Cross?

Target On 21 June 1854, during the Crimean War, HMS *Hecla* was part of an Anglo-French fleet on the Baltic bombarding a Russian fortress. During the battle, a shell landed on the deck. All seemed lost until a young sailor named Charles Davis Lucas ran forward, scooped up the shell and hurled it overboard before the explosion.

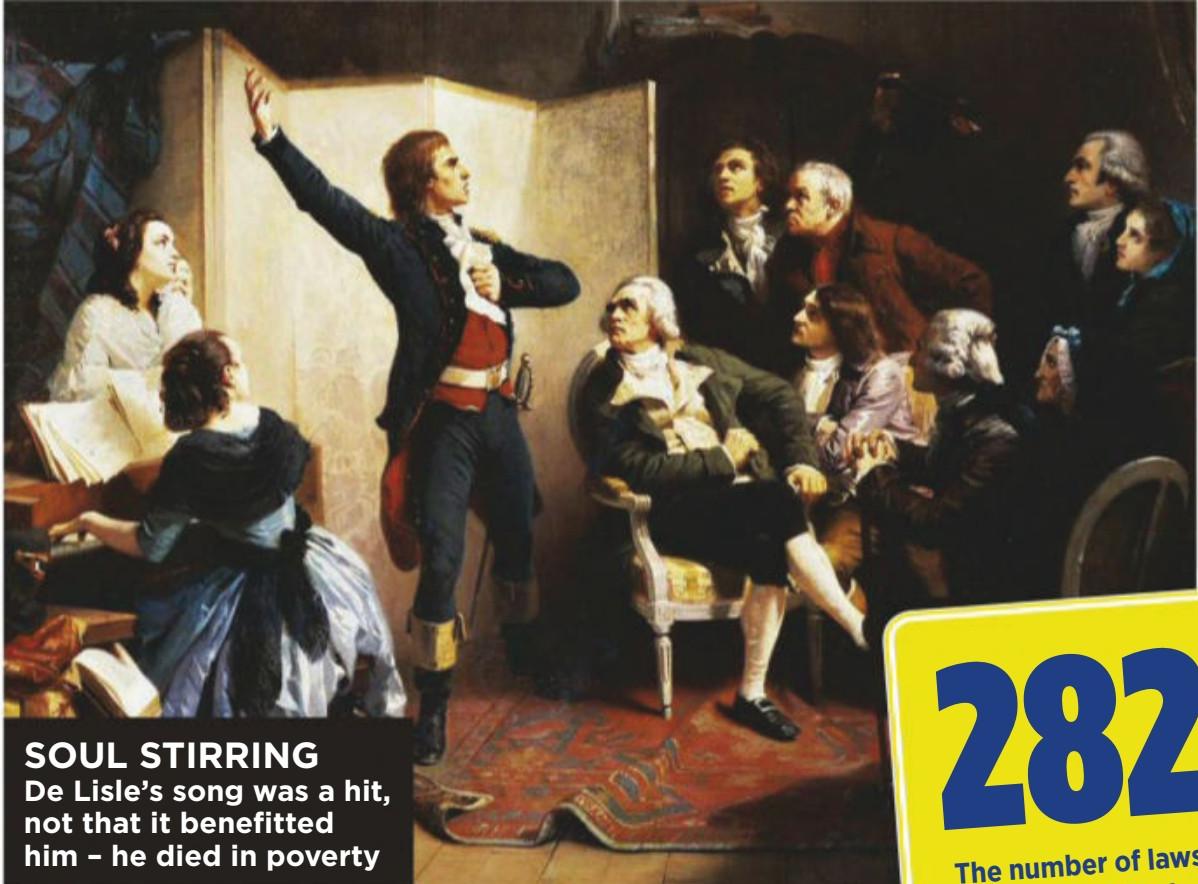
Lucas saved the ship. Having joined the Royal Navy at 13, the 20-year-old was promoted to lieutenant. His act of bravery would be the earliest to be recognised by the Victoria Cross, which was instituted in 1856.

At a grand ceremony at Hyde Park the following year, the queen who gave her name to the medal presented 62 of them, as 100,000 of her subjects watched. They weren't given in chronological order of deed, but rank, so Lucas was fourth to receive the VC.

Commander Henry James Raby had the honour of being the first to receive the medal, in recognition of saving a wounded man amid heavy fire. Although, maybe it wasn't such a great honour. Victoria messed up her first attempt to pin the medal on his uniform and stabbed Raby in the chest.



LIFE AT SEA
Lucas forged a career in the Navy, rising to the rank of rear admiral



SOUL STIRRING

De Lisle's song was a hit, not that it benefitted him – he died in poverty

WHO WROTE THE FRENCH NATIONAL ANTHEM?

(*) France was a new country following the revolution that began in 1789, and in need of a new anthem. With the country at war with Austria and Prussia, nothing could have captured the spirit of the time more than a marching song.

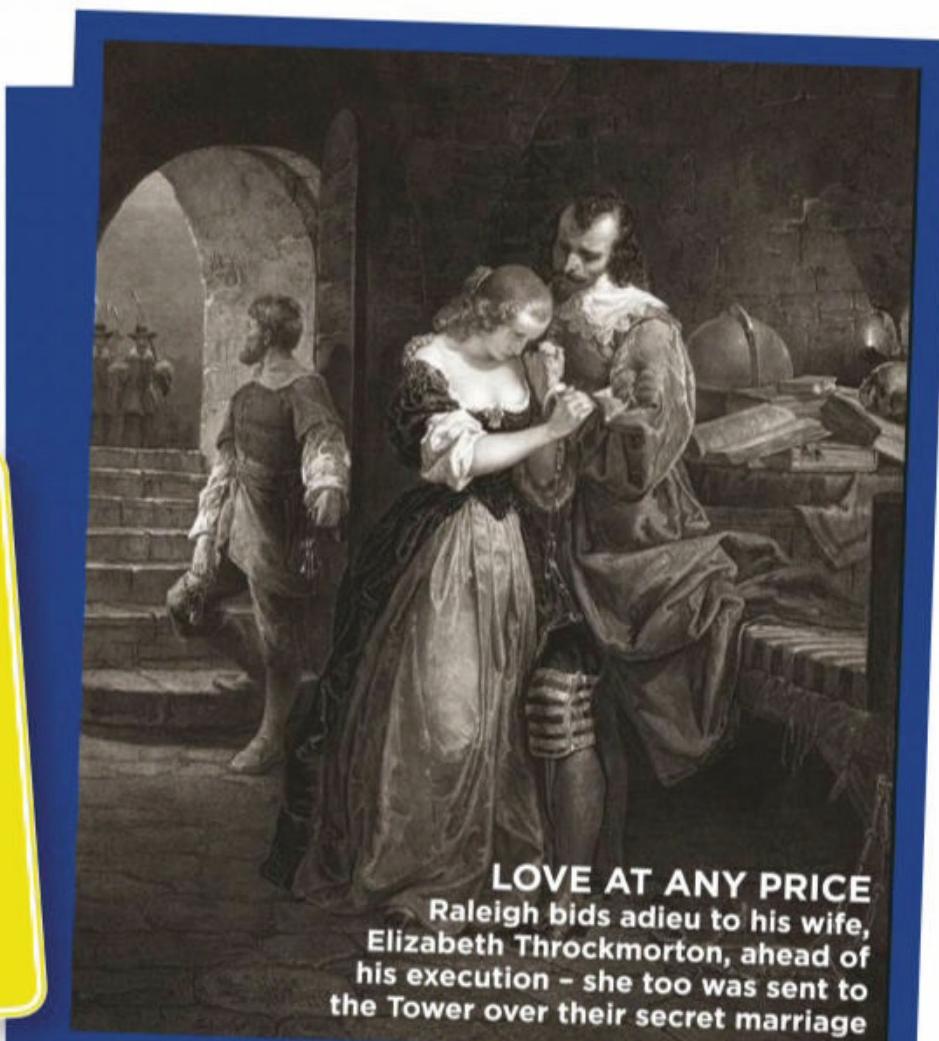
An army captain (and amateur musician) named Claude-Joseph Rouget de Lisle was posted in Strasbourg when he was tasked by the mayor with creating a tune the troops could really belt out. Bursting with patriotic fervour, he composed the *Chant de Guerre Pour L'Armée du Rhin* (War Song for the Army of the Rhine), devising the stirring

music and lyrics over a single night in April 1792. Full of imagery like "Let us march, let us march! That their impure blood should water our fields," its popularity spread almost as quickly as it took to write. Soon it was known as *La Marseillaise*, so called after being sung by volunteer troops from Marseille as they entered Paris, and on 14 July 1795, it became the national anthem.

For all its revolutionary symbolism, – enhanced by it being later banned by Napoleon and the restored monarchs – its composer, de Lisle, was actually a royalist. In 1793, he came close to losing his head on the guillotine.

282

The number of laws on the Code of Hammurabi, which were inscribed on a large stela during the reign of Babylonian king Hammurabi in the 18th century BC.



LOVE AT ANY PRICE

Raleigh bids adieu to his wife, Elizabeth Throckmorton, ahead of his execution – she too was sent to the Tower over their secret marriage

WHY WAS WALTER RALEIGH EXECUTED?



He may have been a great adventurer and favourite of Elizabeth I – and supposedly happy to get his coat muddy to save the Queen some laundry – but Walter Raleigh had been tempting fate for decades before his demise in 1618.

His first fall from grace came when Elizabeth found out he had secretly married one of her ladies-in-waiting in 1591, earning him a stay at the Tower of London. And while Raleigh managed to rally from that, things went wrong again in 1603 when James VI of Scotland came to the English throne, as James I. Hearing that Raleigh was involved in a plot to overthrow him, James swiftly had him imprisoned for treason.

He was found guilty and sentenced to death – and then not executed. Instead, Raleigh spent 13 years in the Tower, legally dead, but very much alive. Having escaped the axe, he somehow clawed himself back up again until he was permitted to lead an expedition to find the mythical El Dorado in the New World.

It was a failure. Raleigh's men attacked a Spanish settlement, against royal orders, leading Spain to put pressure on James to act. Willing to oblige, in 1618 the King finally delivered on the death sentence handed out 15 years earlier.

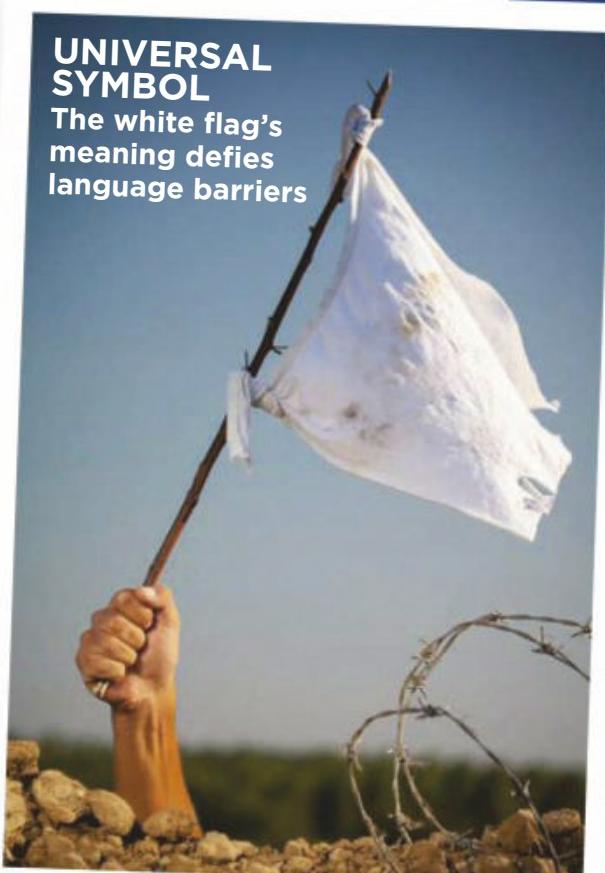
Why do white flags mean peace?

(*) Easy to spot and easy to come by, it is easy to see why white material has been used on battlefields as a sign of peace since ancient times. Its extensive use has seen the symbolism of the white flag enshrined in the Geneva Conventions of the 19th century.

There are records of its use from the Eastern Han Dynasty, which ruled in China from the first to third centuries AD, and in Rome even earlier. Roman historian Livy described a Carthaginian ship decorated with "white wool and branches of olive" to show a request for parley in the Second Punic War of the third century BC. Not that white was the only means of surrender in Rome – soldiers calling for a cease in fighting traditionally held their shields above their heads.

UNIVERSAL SYMBOL

The white flag's meaning defies language barriers



BETTER THAN HADRIAN

The dyke raised in the name of Offa of Mercia (*Inset*) stretched along a 115-mile frontier – 42 more than Hadrian's Wall



WHY DID OFFA BUILD A DYKE?



"A certain vigorous king called Offa, who terrified all the neighbouring kings and provinces around him ... had a great dyke built between Wales and Mercia from sea to sea." So wrote the ninth-century Welsh monk Asser.

Having brought huge swathes of England under his rule, eighth century Mercian ruler Offa quite frankly wanted to show off about the extent of his kingdom. This wasn't like what the Romans did with Hadrian's Wall – which functioned as both a

barrier and a place to collect taxes – but a display of power. After all, if Offa could build this great earthwork of banks and ditches, which roughly follows the modern English-Welsh border, and have it garrisoned, then what couldn't he do?

Today, it is possible to walk along paths that run the route of the dyke, although admittedly its intimidating look has somewhat lessened over the centuries.

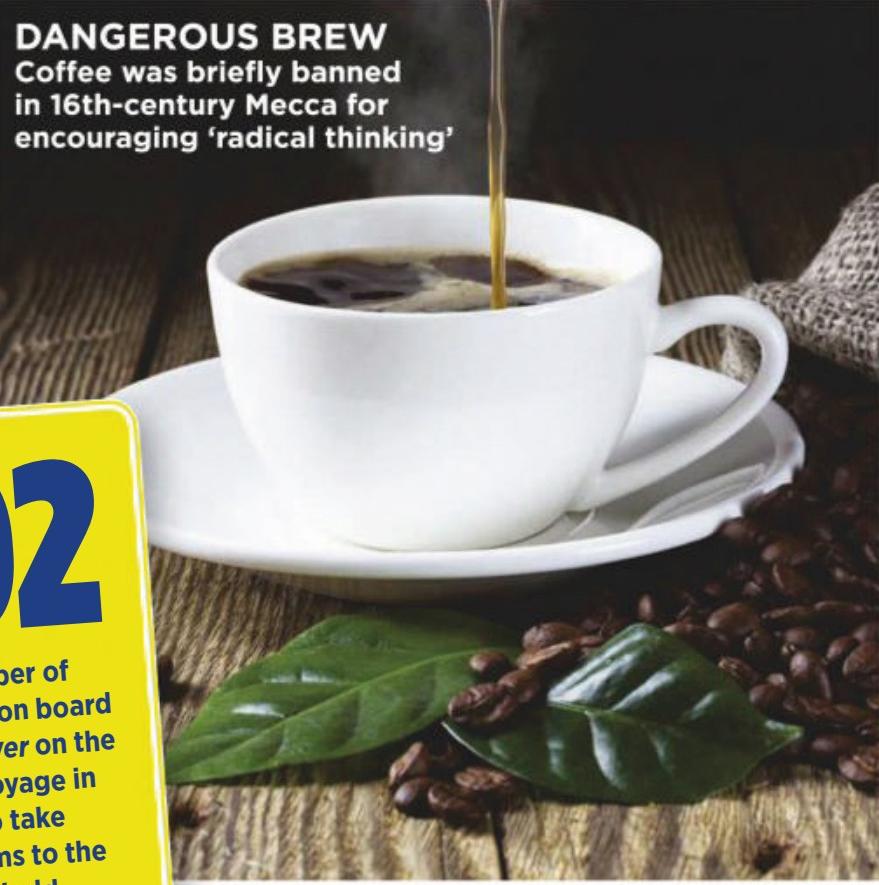
WHY IS COFFEE CALLED A 'CUP OF JOE' IN THE US?



It's difficult to spill the beans on the identity of this Joe, whom non-morning people might give thanks to when sipping their coffee, but there are several contenders. Joe Martinson, founder of a coffee company in the late 19th century, may have launched a successful marketing gimmick using his own name. Or it could be Josephus Daniels, the US Secretary of War who banned alcohol on navy ships in 1914 – causing disgruntled sailors to raise a cup of the strongest drink they could get, coffee, in mocking salute to 'Joe'.

Those theories are hard to swallow, though, as 'cup of Joe' didn't enter the vernacular until the 1930s. More likely was that it evolved from another word for coffee: jamoke, a combination of java and mocha. Yet more simply, it could just refer to how coffee was an everyday drink for everyday working folk – the average Joes.

DANGEROUS BREW
Coffee was briefly banned in 16th-century Mecca for encouraging 'radical thinking'



102

The number of passengers on board the Mayflower on the historic voyage in 1620 to take the Pilgrims to the New World.

When was the **Venus de Milo** found?



An unexpected Greco-French excavation on 8 April 1820 recovered the famous marble statue around 2,000 years after she was carved. Yorgos Kentrotas, a farmer on the Aegean island of Milos, unearthed the Venus, but even though she was in two pieces, he needed help.

Luckily, a young French naval officer named Olivier Voutier was digging the nearby site of an ancient theatre and lent a hand, which is more than the Venus could have done. Voutier's assistance led to the French buying the statue from the farmer. It was presented to King Louis XVIII, then placed in the Louvre, where it still draws armfuls of visitors every year.



LOST LIMBS
What the famous statue was once doing with its arms remains a mystery



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Sarah Plater



"I quit regular office work to write articles at home. I've been very fortunate to have been picked up by **four different online publications** since, all of whom I continue to write for regularly. Going back to the course itself, **I don't feel it could have gone any better**. My tutor has been excellent and has provided invaluable feedback throughout."

Dan Roberts



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Alice Vinent



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Martin Read



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Heather Burnside



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George Stewart

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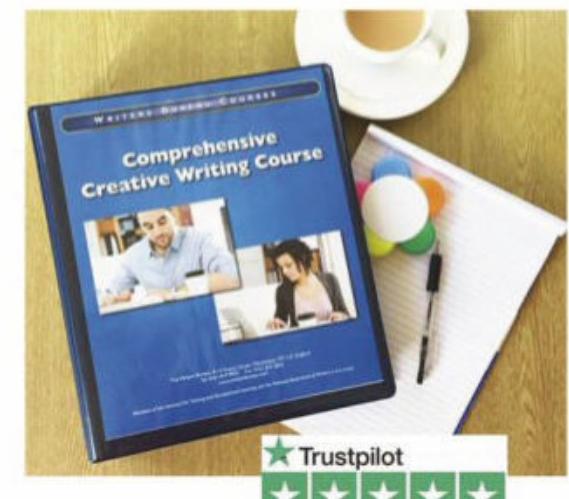
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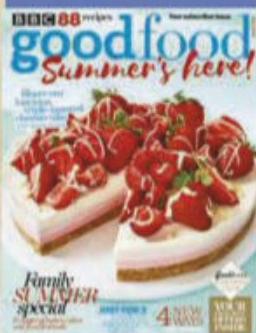
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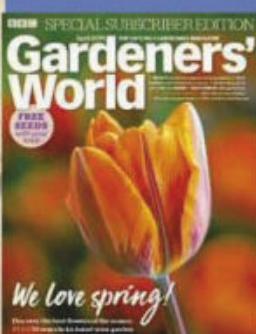


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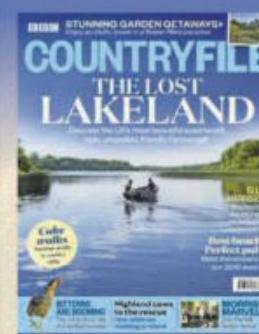
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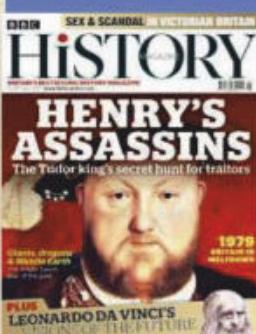


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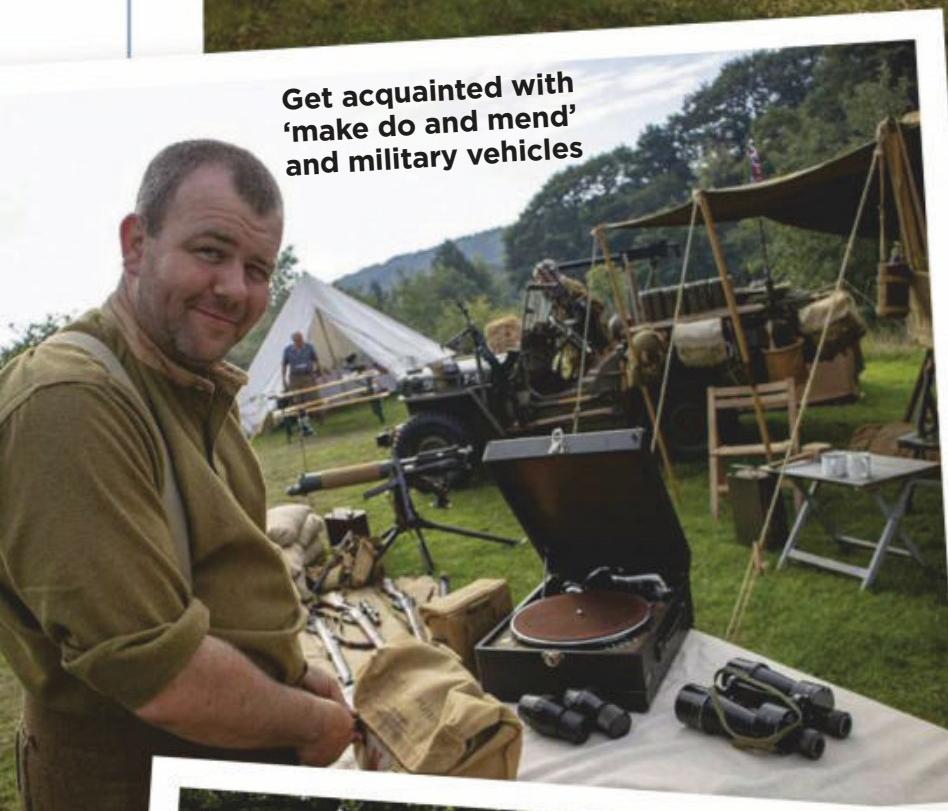
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ON OUR RADAR

A guide to what's happening in the world of history over the coming weeks



With the men off at war, lumberjills kept timber flowing into mines and factories



Get acquainted with 'make do and mend' and military vehicles



EVENT

Dig For Victory

Beamish: The Living Museum of the North, 29 August to 1 September, www.beamish.org.uk

The 1940s farm at Beamish will be full of life as everyone pitches in to aid the war effort. The first event of the

museum's Great North Festival of Agriculture will explore the vital role the British farm and countryside played during World War II. Try your hand at whipping up some wartime recipes, visit the animals and witness what life on the Home Front was really like. Pay once to enter Beamish and receive free entry for the rest of the year: adults £19.50, children (age 5-16 years) £11.50.

WHAT'S ON

Pop-up Shakespeare comes to Blenheimp84



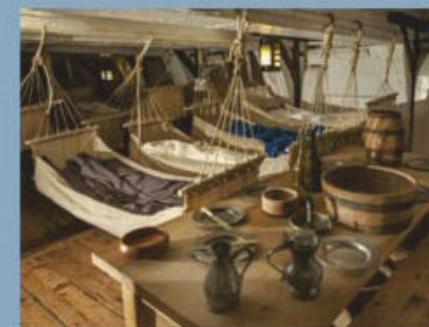
TV & RADIO

The hottest new shows and podcasts...p86



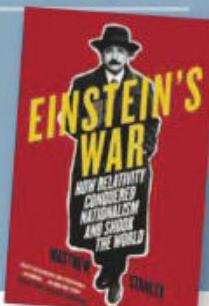
BRITAIN'S TREASURES

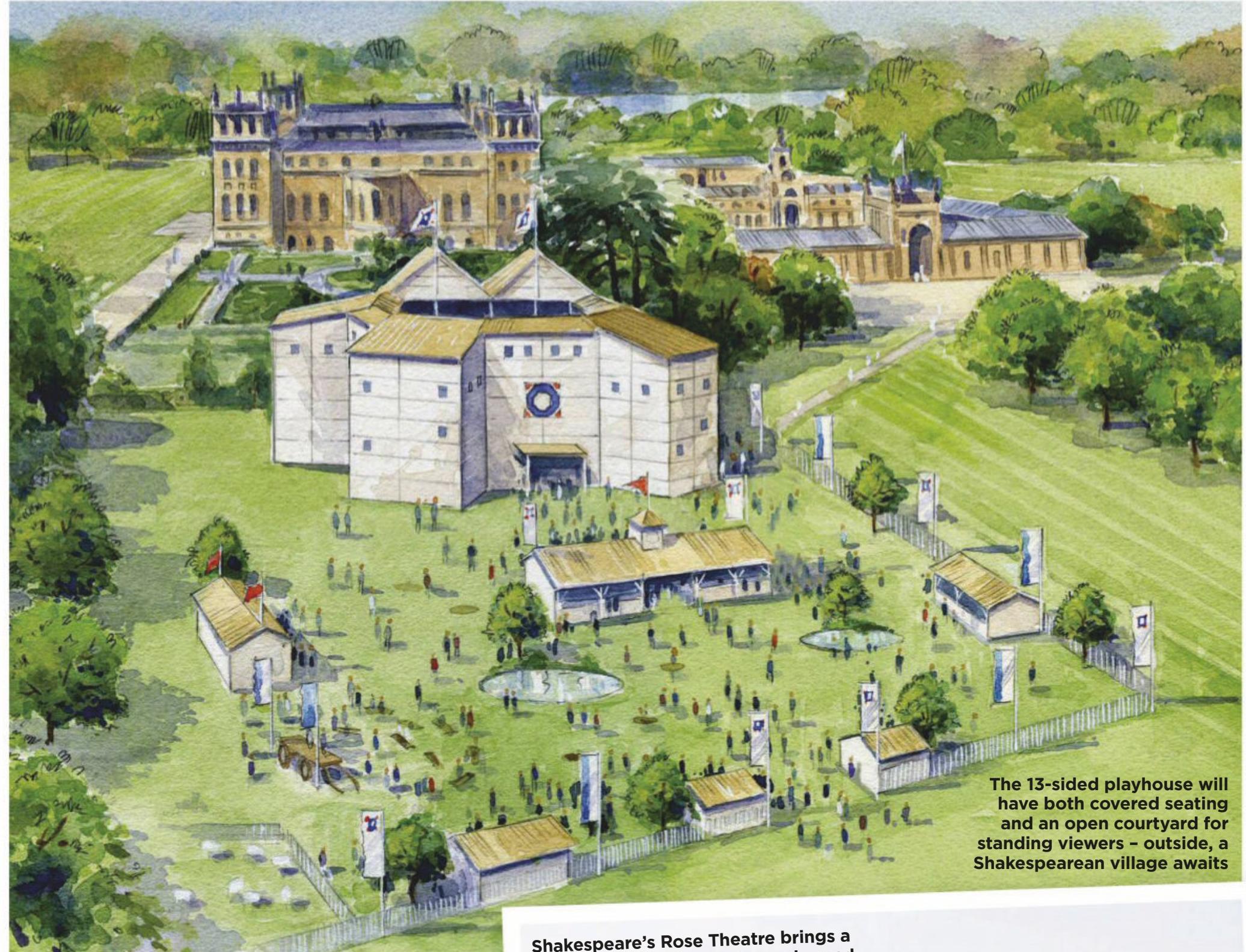
HMS Victory p88



BOOK REVIEWS

Our look at the best new releases....p90





The 13-sided playhouse will have both covered seating and an open courtyard for standing viewers – outside, a Shakespearean village awaits

EVENT

Shakespeare's Rose Theatre

Blenheim Palace, 8 July to 7 September, www.blenheimpalace.com/whats-on/events/shakespearesrt

Experience the sights, sounds and excitement of a trip to the theatre – Elizabethan style. Europe's first pop-up Shakespearean theatre is bringing four of the Bard's most beloved plays to Blenheim Palace: *Macbeth*, *A Midsummer Night's Dream*, *Richard III* and *Romeo & Juliet*. In addition to the 13-sided scaffolding theatre, a Shakespearean village will also be set up to give theatregoers a taste of life in Elizabethan England. Visit the website for performance dates and to buy tickets – combined tickets giving access to the palace can also be purchased.

Shakespeare's Rose Theatre brings a quartet of tragedy, battles and grand oratory to Blenheim this summer





Mental health treatment has not always been sympathetic

EXHIBITION

Moonstruck: 500 Years of Mental Health

Royal College of Physicians
Edinburgh, until Spring 2020
www.rcpe.ac.uk/moonstruck

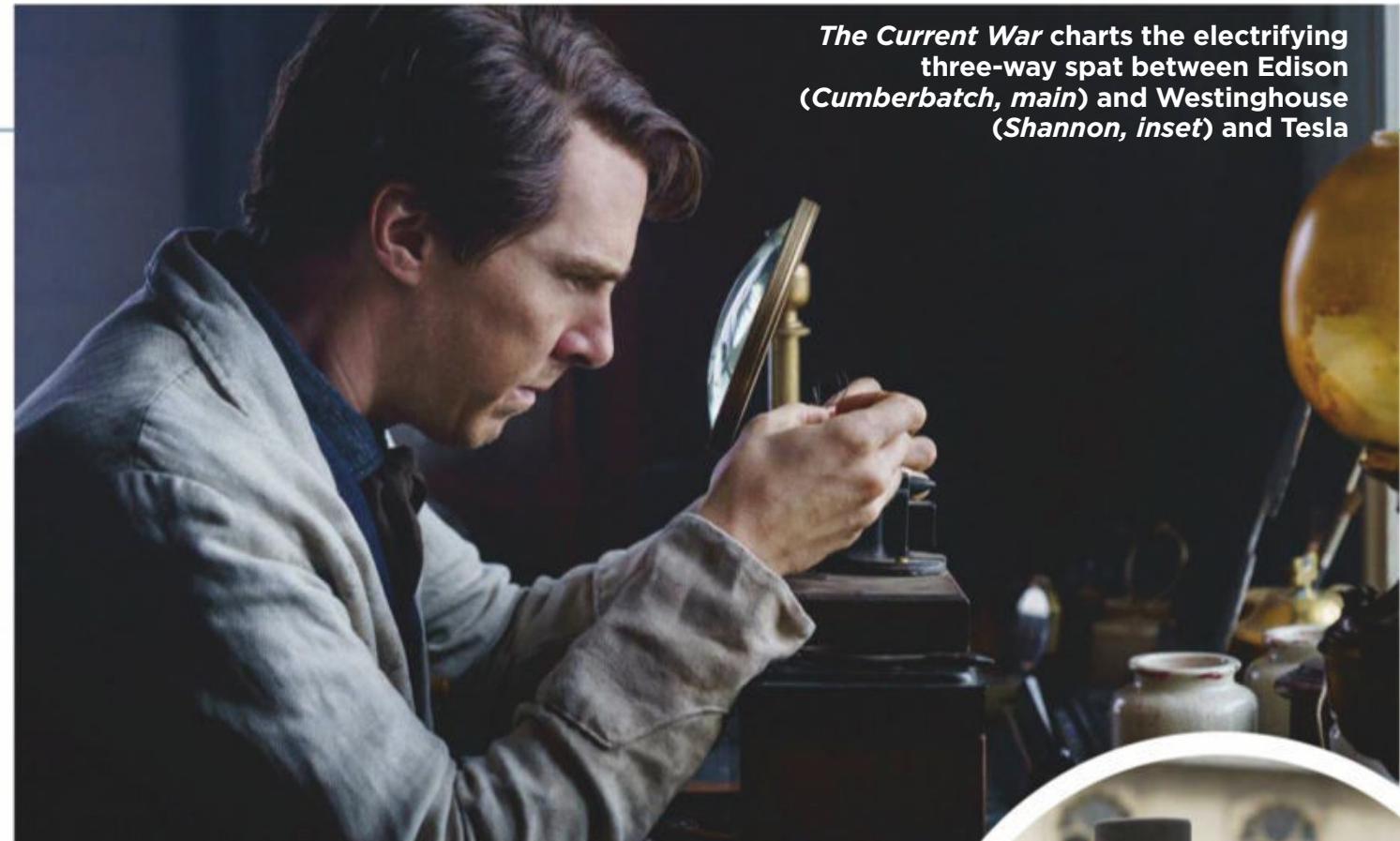
This free exhibition traces how, historically, medical professions have tackled mental health issues and explores the experiences of those who suffered from them. From accusations of witchcraft to the use of straitjackets and asylums, the exhibition asks visitors to question the assumptions and stereotypes surrounding psychiatry – many of which still persist.

EXHIBITION

Adorn: Jewellery, The Human Story

Colchester Castle, 27 July to 16 February, www.colchester.cimuseums.org.uk/exhibitions/adorn

Jewellery has been used through time as a way to express oneself, highlight status or to add colour to a dreary outfit. With loans from the British Museum and work from local jewellery makers, the story of personal adornment will be explored from the Bronze Age to the modern day. Included with admission to Colchester castle: adults £10, children £5.25.



The Current War charts the electrifying three-way spat between Edison (Cumberbatch, main) and Westinghouse (Shannon, inset) and Tesla

FILM

The Current War

Released in UK cinemas on 26 July

Set during the race for power in the late 19th century, *The Current War* follows the ensuing battle between inventor Thomas Edison (Benedict Cumberbatch), entrepreneur George Westinghouse (Michael Shannon) and inventor Nikola Tesla (Nicholas Hoult) as they all compete to bring electricity to America and the world. The film also stars Matthew MacFadyen as financier JP Morgan.

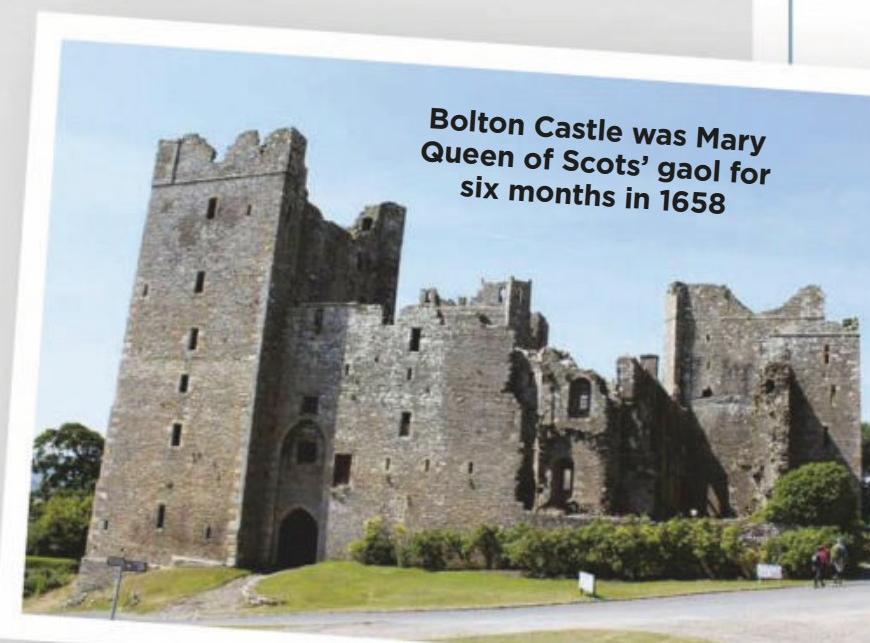


EVENT

Spanish Armada Living History

Bolton Castle, Wensleydale, 17-18 August
www.boltoncastle.co.uk

The Spanish Armada has been spotted in the English Channel and Elizabeth I's fleet has been sent out to thwart them. Bolton Castle is preparing for attack – will you join them in defending the castle? Train with the soldiers as they prepare for war and learn what everyday life was like in the Tudor garrison. The event is included with admission: adults £9, children £7.50.



Bolton Castle was Mary Queen of Scots' gaol for six months in 1658

► ALSO LOOK OUT FOR

► **Horrible Histories Live on Stage! – The Gorgeous Georgians and Vile Victorians**
bring parts of their gruesome history to life. Hillsborough Castle, Northern Ireland, 10-14 August, bit.ly/2IHPwIn

► **12,000 Years of Combat – Discover weaponry and combat techniques from the Stone Age to the Victorian era.** Arundel Castle, West Sussex, 24-26 August, bit.ly/31xZeIM

This gold bracelet looks great for its age – it dates back to Roman times

TV AND RADIO

The hottest documentaries, podcasts and period dramas



THE FINAL SERIES?

Poldark

BBC One, scheduled for July

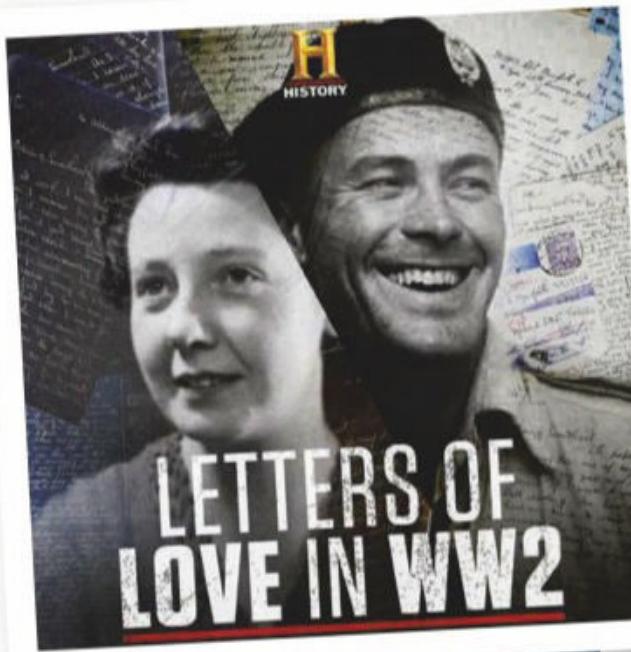
It's one of the paradoxes of a successful TV series. Eventually, its cast and key creative people are so in demand that it's difficult to assemble them all. In part, this probably explains why the fifth series of *Poldark*, the drama that had the nation chattering about the idea of scything with your shirt off, is likely to be the last.

It's set, with the blessing of Winston Graham's estate, between novels seven and eight in the historical sequence, a period the author jumped over. We return to find Ross (Aidan Turner) resolving to spend quality time in Cornwall with Demelza (Eleanor Tomlinson) and the family rather than swanning around in London. Except life is never that easy, and events test Ross's loyalty to king and country.

And don't necessarily rule out more trips west. "Never say never," noted scriptwriter Debbie Horsfield recently, when asked about the possibility of the show returning in the future.



...while Eleanor Tomlinson's Demelza will be forced to deal with challenges closer to home



The eight-part series charts a love story wracked by war

LONELY HEARTS Letters of Love in WW2

Podcast, available now, new episodes released weekly

Just three months after they tied the knot, World War II separated Cyril and Olga Mowforth. Their relationship began to be played out in letters and postcards, which 60 years later were found by the couple's family.

It's this correspondence that forms the basis of this eight-part podcast from the History Channel. Starring Johny Pitts and Amy Nuttall, it covers key events from between 1940 and 1946, including El Alamein, D-Day and the liberation of Bergen-Belsen concentration camp.

AD INFINITUM Classified Britain

Radio 4, scheduled for July

To many of our forebears, the idea of front-page news would have seemed strange. That's because newspapers, until well into the 20th century, gave over this prime space to advertising.

Presented by James Naughtie of *Today* fame and returning for a second series, *Classified Britain* looks at the past through the prism of these advertisements. It's a way of exploring what the classifieds say about specific times and, because these are local newspapers, places.

Rufus Wright, Patrick Kennedy and Jack Tarlton star as Armstrong, Collins and Aldrin

LUNAR ESCAPADES

8 Days: To the Moon & Back

BBC Two, scheduled for July

The story of Apollo 11 has passed down to us through footage and images that have become, and for once this overused word is apposite, iconic. Yet how would the mission have seemed from the perspective of astronauts Neil Armstrong, Buzz Aldrin and Michael Collins? The cornerstone of the BBC's programming to mark the Moon landing's 50th anniversary, this 90-minute drama-doc uses digital technology and draws on declassified cockpit audio to tell the story anew. Banter, it turns out, was rife during this most serious of endeavours. Also look out for *Chasing The Moon* (BBC Four), which tells the wider story of the space race. On Radio 4, James Burke's *Apollo Memories* talks to the journalist who fronted the BBC's Apollo coverage in 1969.

► Turn to p27 for more on Apollo 11... and 49 other great leaps in history



MAKING MUNITIONS

War Factories

Yesterday, scheduled for July

World War II wasn't just fought on the battlefield, but in industrial workplaces where the competing powers produced weapons and equipment. This eight-part series focuses on this aspect of the conflict.

The first episode, for example, looks at how the Nazis built up the Luftwaffe, but also how Hitler ultimately lost the war of the skies. Look out, too, for episodes about the Krupp company, which made Panzer tanks and U-boats, and Spitfire manufacturers Vickers.



Spitfires fuselages being made at the Castle Bromwich Aircraft Factory, c1943



Actors Daniel Radcliffe and Naomie Harris are among the stars in this new series

ANCESTRAL KNOWLEDGE

Who Do You Think You Are?

BBC One, scheduled for July

Perhaps it's the Danny Dyer career-kick effect, but the 16th series of *WDYTYA?* seems starry even by the standards of a series that's always attracted A-listers. They include Oscar-winning actor Kate Winslet, who traces her Swedish roots, and Daniel Radcliffe, who finds a cache of poignant letters dating from World War I. The series also features ex-*TOWIE* star Mark Wright, TV personality Sharon Osbourne, actor Naomie Harris, comedians Paul Merton and Katherine Ryan, and comedian Jack Whitehall with his father, theatrical agent Michael.

► ALSO LOOK OUT FOR

- In *The Dyatlov Pass Mystery* (BBC World Service, scheduled for Sunday 14 July) Lucy Ash investigates how the mysterious disappearance of nine hikers in the Soviet Union in 1959 has led to numerous conspiracy theories.
- For *Her Story Made History* (Radio 4/BBC World Service, Monday 29 July), Lyse Doucet interviews five remarkable women who have changed the world.

Though she no longer sails, the Victory is still in commission: she is the flagship of the First Sea Lord (the head of the Royal Navy)

ACT OF PRESERVATION

After his death, the *Victory* brought Nelson's body back to England. For the first leg, returning to Gibraltar, he was preserved in a cask of brandy, lashed to a mast.



BRITAIN'S TREASURES... HMS VICTORY Portsmouth

Laid down in the 18th century, Nelson's flagship at the 1805 Battle of Trafalgar is the oldest naval vessel still in commission

GETTING THERE:
The Historic Dockyard is in Portsmouth Naval Base. From the M27, follow the brown signs. Portsmouth Harbour train station is a few minutes' walk away.



OPENING TIMES AND PRICES:
The Historic Dockyard is open every day from 10am – except Christmas Eve, Christmas Day and Boxing Day. The gates close at 6pm (5.30pm between November and March). Adults £18, children £13 – combined tickets for other attractions at the Dockyard can be bought online.

FIND OUT MORE:
www.historicdockyard.co.uk

Portsmouth's Historic Dockyard houses a wealth of treasures for naval fans – from the Victorian battleship HMS *Warrior* to the National Museum of the Royal Navy. One of its most treasured attractions holds the title of the world's oldest naval ship still in commission as well as arguably being the most famous British warship: HMS *Victory*.

The *Victory* was ordered in 1758 as part of a plan by British Prime Minister William Pitt the Elder to create a new fleet of ships, of which the *Victory* would be the largest. Designed to carry 100 guns, the name was chosen with some apprehension – the previous

Victory had been wrecked in the English Channel in 1744.

Around 6,000 trees were used to build the *Victory*, which was launched on 7 May 1765 from Chatham Royal Dockyard. The dock gates had to be hewed down as the ship, at 51 feet wide, was too big to fit through.

The ship was put in reserve, as Britain was not involved in any conflicts at the time. That changed when France became involved in the American War of Independence in 1778. The vessel was swiftly mobilised and, in March 1778, put into active duty as the flagship of Admiral Augustus Keppel for the First Battle of Ushant – a

skirmish between British and French forces, just off the island of Ushant, close to Brittany. The clash ended indecisively.

The Second Battle of Ushant in 1781, in which the *Victory* also took part, was more successful: in that instance, the British fleet managed to capture 15 French ships and more than 1,000 soldiers who were part of a convoy sending supplies to the West Indies. The following year, the ship successfully escorted a supply convoy through a French and Spanish blockade during the Great Siege of Gibraltar.

The Anglo-Spanish War – part of the French Revolutionary Wars



WHAT TO LOOK FOR...



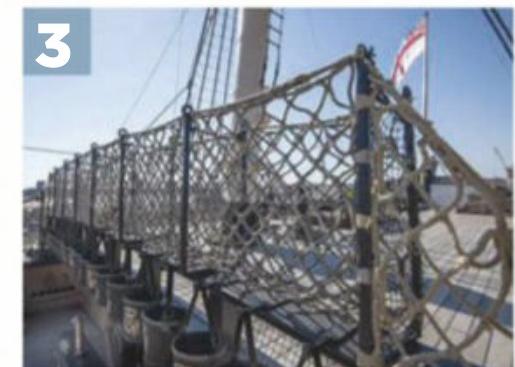
THE ORLOP DECK

The lowest deck on the *Victory*, this is where Nelson was brought after suffering his fatal wound – as were the other injured sailors awaiting the ship's surgeon.



ORIGINAL GUNS

The majority of guns used at the Battle of Trafalgar have not survived, however eight original cannon can still be seen aboard the *Victory*.



POOP DECK

The highest point that visitors can reach on the ship, the poop deck gives great views over the whole of Portsmouth's historic dockyard.



THE GALLEY

The most important part of any ship, the galley was where the soldier's food was prepared. During Nelson's time, the crew ate an average of 5,000 calories a day.



THE GREAT CABIN

Visit the spacious surroundings that became Nelson's home while he was on board. Here he unveiled his winning battle plans, but the elegant cabin could also be cleared for action if necessary.

"Around 6,000 trees were used to build the *Victory*"

– would see the *Victory*'s next battle as the flagship of Admiral Sir John Jervis. At the Battle of Cape St Vincent in 1797, the British forces defeated the Spanish who vastly outnumbered them.

On her return to Britain, the *Victory* was found to be in urgent need of repair, and so she was earmarked for conversion into a hospital ship for French and Spanish prisoners of war. The refit didn't take place: soon after HMS *Impregnable* was lost in 1799, and the admiralty found itself short of a first-rate ship of the line. The *Victory* underwent an extensive restoration to make it fit for active service once more. By 1803, it was ready to face its greatest test.

None of its previous battles come close to the *Victory*'s most

triumphant hour – the 1805 Battle of Trafalgar. On 19 October 1805, French Admiral Pierre-Charles Villeneuve sailed his fleet from the Spanish port of Cadiz, bound for Naples. Two days later, close to Cape Trafalgar in southwest Spain, the British, commanded by Horatio Nelson aboard the *Victory*, met him in battle.

In a risky move, Nelson split his fleet into two, causing confusion amongst the enemy and winning a decisive victory. Nelson's unusual tactics saw 22 French and Spanish ships captured or destroyed, while the British did not lose any.

Trafalgar would be Nelson and the *Victory*'s last major glimpse of battle – while leading the attack, Nelson was fatally shot through

his left shoulder blade, the musket ball breaking his spine. He was carried below and heard the battle was won before taking his last breath.

After Trafalgar, the *Victory* was recommissioned in 1808 to lead the fleet in the Baltic but by the 1830s, it had been relegated to a stationary flagship for the Royal Navy. In 1922, the ship was placed in dry dock to be repaired and restored to how it would have looked during Nelson's time.

Portsmouth was heavily bombed during World War II, with an air raid causing some damage to the ship, although much of the *Victory* that Nelson would have known has miraculously survived. ☀

WHY NOT VISIT...

More historical sites in the south of England

SOUTHSEA CASTLE

One of Henry VIII's forts to protect against a French invasion, this is where he watched his ship, the *Mary Rose*, sink.

www.southseycastle.co.uk

WINCHESTER CATHEDRAL

This stunning cathedral – with the longest medieval nave in Europe – is also the burial place of author Jane Austen.

www.winchestercathedral.org.uk

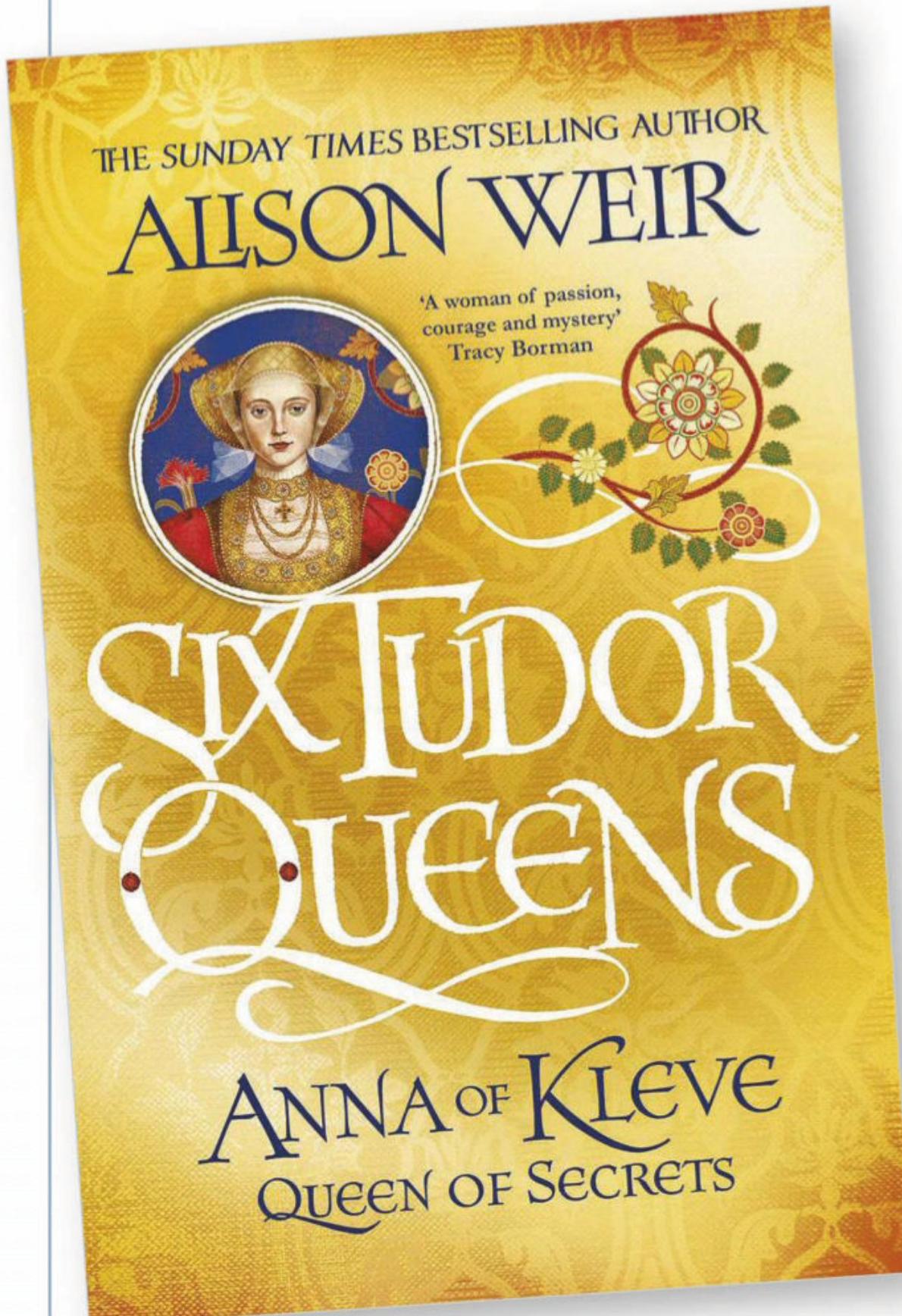
CHARLES DICKENS BIRTHPLACE MUSEUM

This museum, where Charles Dickens was born in 1812, has been faithfully recreated to resemble the house where the writer spent his early years.

www.charlesdickensbirthplace.co.uk

BOOKS

This month's best historical reads



“Anne’s fortunes fall, rise, and fall again as monarchs change”

**BOOK
OF THE
MONTH**

Six Tudor Queens: Anna of Kleve, Queen of Secrets

By Alison Weir

Headline, £18.99, hardback, 528 pages

Historical-fiction phenomenon Alison Weir's series of novels chronicling the lives of Henry VIII's six wives reaches its fourth instalment, starring Anne of Cleves. You might think the fact that she was queen for just six months would provide slim pickings, but Weir skilfully spins the tale outward, taking in both rumours of wayward behaviour early in her life and the royal couple's relationship after their marriage ends. Indeed, the story continues apace beyond Henry's death, as Anne's fortunes fall, rise, and fall again as monarchs change and she becomes implicated in Wyatt's Rebellion, the 1554 uprising against Mary I.





It was Thomas Cromwell who suggested that Henry marry Anne of Cleves



Henry gazes on Anne for the first time. It's commonly supposed that he couldn't stand the sight of her, but historians are challenging that portrayal

MEET THE AUTHOR

Alison Weir tells us why she suspects Anne of Cleves, fourth wife of Henry VIII, may have remained close to the Tudor titan even after their divorce

This is the fourth book in your *Tudor Queens* series. What is the focus of the story this time around?

People tend to think that once she was divorced, Anne of Cleves was no longer interesting – but, of course, she was. Once Henry divorced her, he became her best friend, and supplemented her income during a period in which prices rose alarmingly. When he died, the lack of money became a real problem: she lost the houses she loved, and came under the influence of a rather dangerous man, which led to her being implicated in Wyatt's Rebellion, the worst crisis of Mary I's reign.

There is a backstory, too – and quite a startling one. I based this storyline on some speculative research about Anne's past, and something that Henry VIII said – and kept on saying.

Without giving too much away, can you tell me more about that research?

After their wedding night, Henry VIII complained that he'd felt Anne's body and found her no virgin. But my research revealed that he didn't just say it once – he kept saying it, to various different gentlemen of his household, for weeks. Even when he was trying to establish that the marriage hadn't been consummated, at the time he was hoping for an annulment, he was still repeating it.

I kept thinking: what if Henry was saying what he believed to be the truth? Finding out that your bride was no virgin on your wedding night was not grounds for an annulment, so why was he slandering her when there was no need to do so? There is other evidence that could corroborate that she'd had a past, too – that she was free with her favours when she'd imbibed too much wine, for instance.

What did you make of Anne and her character in the course of researching and writing this book?

I found her a sympathetic character, and felt sorry for her in many ways. She came to England without any of the accomplishments Henry admired in women: dancing, making music and singing, and she couldn't speak English. She left her family and homeland as representative of an important alliance to marry a king whose three previous marriages had ended in disaster. I admire her for the way she conducted herself at the time of the divorce. She agreed to nearly everything that Henry asked of her, and was so amenable that she ended up with a really good settlement. So she was quite prudent and canny in some ways.

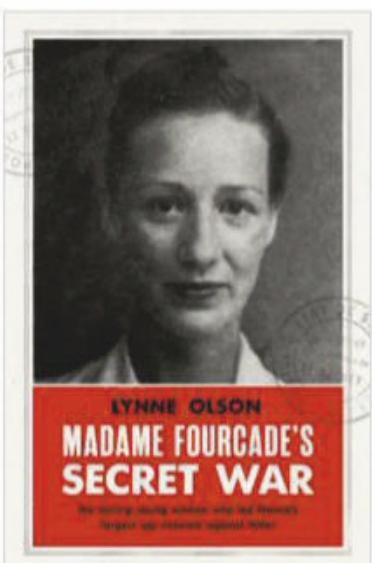


“She was the luckiest of Henry’s wives – but only while he lived”

How would you like this book to change readers' impression of Anne, Henry, and the Tudor period more generally?

I want people to think again about Anne and the circumstances of her marriage – and to believe that there is an important afterstory. As for Henry, I'd like people to see him in a more sympathetic light. Yes, he wanted out of this marriage, but he never behaved discourteously towards Anne – in fact, they became best friends.

Alison Weir is speaking at BBC History Magazine's History Weekend in Chester. See page 70 for details

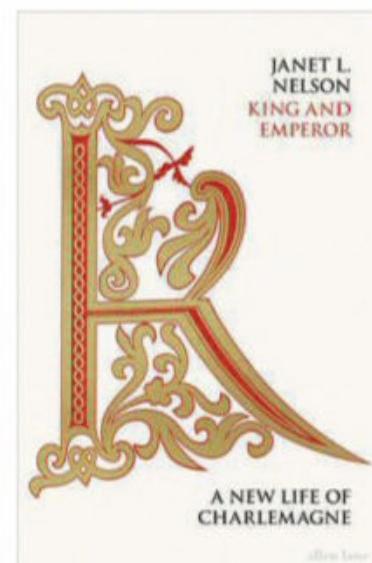


Madame Fourcade's Secret War

By Lynne Olson

Scribe, £19.99, hardback, 480 pages

Marie-Madeleine Fourcade may not be a household name in the UK, but as a French Resistance leader during World War II, she was key to helping Allied commanders keep track of the enemy's plans. Overcoming both a patriarchal society and overwhelming odds – the Gestapo captured hundreds of resistance members – Fourcade went on to survive the war. This is a stirring story of heroism, charisma and determination.

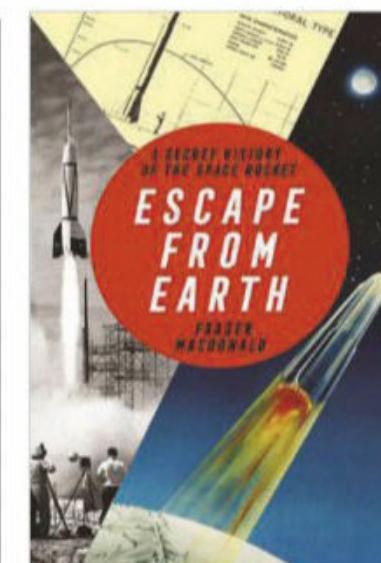


King and Emperor: A New Life of Charlemagne

By Janet L Nelson

Allen Lane, £30, hardback, 720 pages

King of the Franks, King of the Lombards, Emperor of the Romans: Dark-Ages ruler Charles the Great, or 'Charlemagne', packed a lot into his seven decades of life. This major biography is therefore necessarily weighty, exploring his childhood and his personality, his successes and his failures. The man who emerges is energetic, physically adept, and boundlessly curious – and destined to leave a mark on European history for centuries to come.

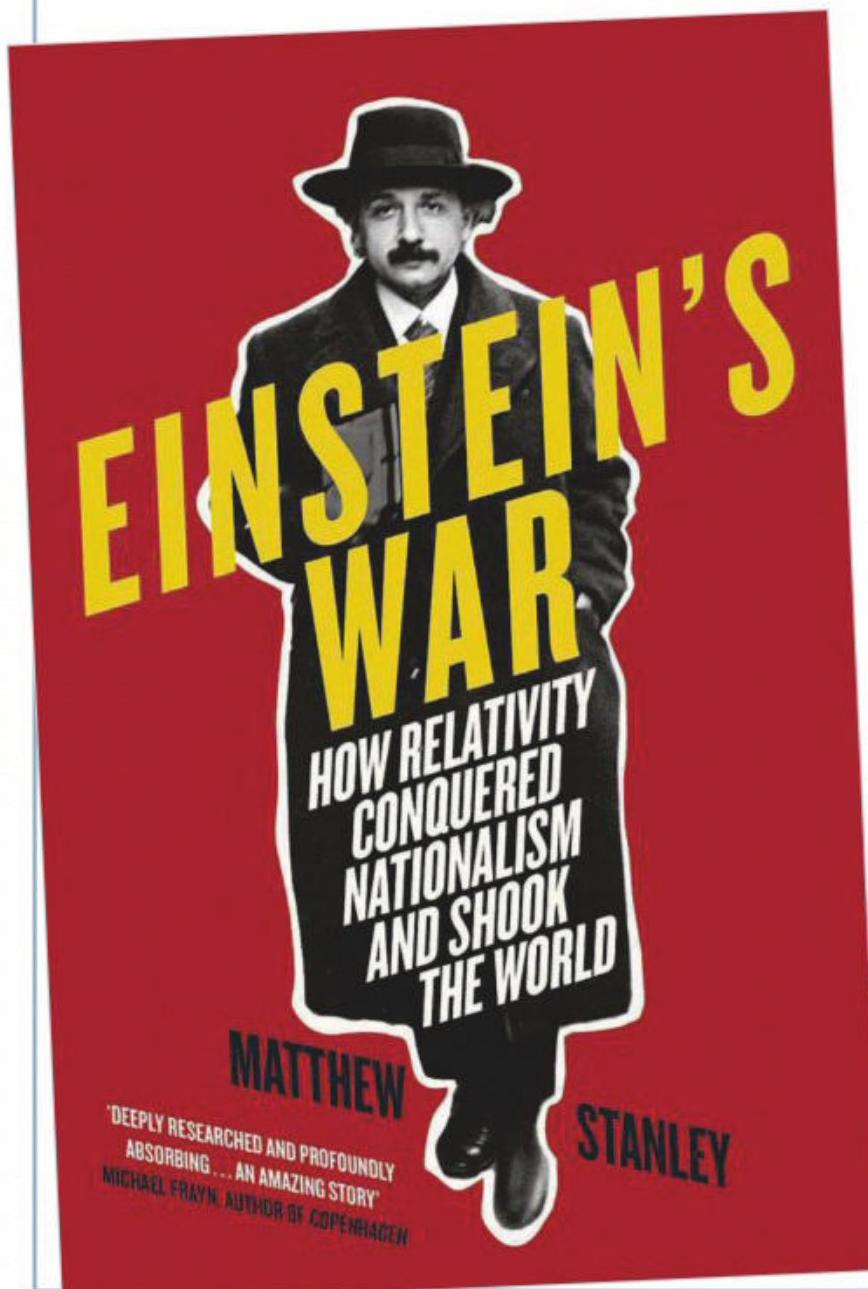


Escape from Earth: A Secret History of the Space Rocket

By Fraser MacDonald

Profile, £20, hardback, 384 pages

The journey of the space rocket from science-fiction to science fact is full of breakthroughs and larger-than-life characters. It's also, as this book expounds, a story inexorably bound up with the political turmoil of the 20th century, as the Cold War fears that propelled the Space Race caused suspicion and conflict. Centred on a biography of now-forgotten engineer Frank Malina, this is a new take on a fascinating era.

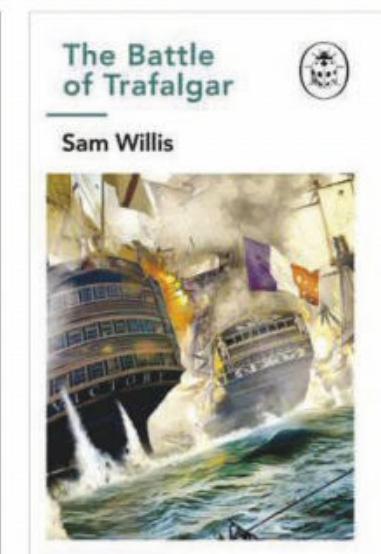


Einstein's War: How Relativity Conquered Nationalism and Shook the World

By Matthew Stanley

Viking, £16.99, hardback, 400 pages

We may think of genius in cartoon terms – a lightning strike, a flashing light bulb – but this look at Albert Einstein's work makes a compelling case for placing it in the world in which he lived. Arguing that Einstein's theory of general relativity, and its popularisation, was intimately bound up with World War I, it's also peppered with memorable figures, such as British scientist Arthur Stanley Eddington. A very human account of very big ideas.



The Battle of Trafalgar

By Sam Willis

Michael Joseph, £8.99, hardback, 56 pages

Don't be fooled by the nostalgic, Ladybird-book formatting: this account of the 1805 Battle of Trafalgar packs plenty of heft into its slender page count. Naval historian Sam Willis is good at setting the scene – and the evocative, full-page illustrations help – but also provides plenty of context and analysis of the engagement that signalled British naval dominance, but cost Admiral Horatio Nelson his life in the process.

THE YOUNG VICTORIA

'An entirely new perspective'
A. N. WILSON

DEIRDRE MURPHY

VISUAL
BOOK
OF THE
MONTH

The Young Victoria

By Deirdre Murphy
Yale, £35, hardback, 224 pages

Cannily sharing its name with 2009's Julian Fellowes-penned biopic, this illustrated guide to the first two decades of Queen Victoria's life draws on diaries, portraits and artefacts to tell the story of her early experiences. It's beautifully presented and rich in atmosphere, but doesn't skimp on historical analysis:

the Victoria who emerges is strong-minded but, perhaps, less isolated than we sometimes might think. This is a great introduction to a fascinating life – and era.

"It's beautifully presented, but doesn't skimp on historical analysis"

well, which they found. All four were surprised. According to her mother, her plate was divided among their children, given as wedding presents, or given to the deceased church when the time came. The queen never ate from the bowl, then divided up the diamonds between the children and the household, then divided up the diamonds.

"Victoria thought she was returning to Scotland the day before her mother's funeral, a failed trip. After about two days, however, she returned home & described how Maria had often indulged in the tea-drinking, so often caused by others". There was no mention of John Cawood, though. Maria had often included three drops above John Cawood after his service. This was the first time serving her husband's things of tea-father's old travel desk presented to her mother when she died at Kensington Palace. Made of a dark wood, it was twice the size of a small child. No details on what the pieces were, a drawing of the room in which he had died and his last letters, so full of tender love & affection, as it seemed the queen tried. She attached to one another. As long forgotten had been the little book in which her mother had recorded the birth of each of her four sons as they came through, and when the last baby boy, Edward, was born surprised to see "such looks on the faces of the men". The young King and Queen of Great Britain were the girls for looking at the things, which brought back so many

Though picture-heavy, this tome doesn't hold back on drawing its own conclusions on Victoria's early years

READERS' LETTERS

Get in touch – share your opinions on history and our magazine

NOTES ON A SCANDAL

I really enjoyed Pat Kinsella's article Project MK ULTRA in the June issue – an interesting yet terrifying incident in US history. It reminded me of another unethical experiment carried out in America at this time, by the US Public Health Service (USPHS) between 1932 and 1972. The official

LETTER OF THE MONTH

last for six months. Some 399 of the men were already infected with syphilis, something they were unaware of.

"All were told they would be treated, when in fact none received any treatment at all"

title of the experiment was 'Tuskegee Study of Untreated Syphilis in the Negro Male'.

In 1932, 600 poor, African-American sharecroppers [tenant farmers who pay part of their crop as rent] were offered free meals and medical insurance to take part in what they were told was a medication study that would

All 600 men in the study were told they would be treated for 'bad blood' [a local term used to describe various ailments], when in fact none received any treatment at all – despite, by 1947, it being known that penicillin was a cure for syphilis. The study continued for 40 years, though the men thought it would only last for six months.

FAMILY RESEMBLANCE

I read your D-Day article (issue 69) with great interest – the photograph of British soldiers moving inland from Sword Beach caught my attention

straight away. The fourth soldier from the right is the image of my father! Do you have any more information on the picture?

Suzanne Burdfield,
Surrey

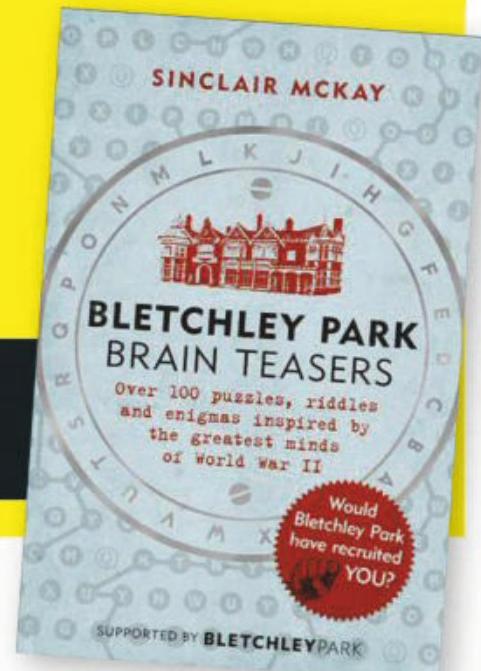


ULTRA DUBIOUS

The CIA tested psychoactive substances on unwitting participants over several years

if there have been more unethical medical studies in history than just these two examples.

Stephen Baker, via email



Stephen receives a paperback copy of *Bletchley Park Brainteasers*, by Sinclair McKay

Editor's reply

Thanks for your letter, Suzanne. We've done some digging around and have identified the men in the photo as being royal marine commandos. You can just make out the Combined Operations 'flash' on the leading man's right shoulder: a red anchor topped by an RAF eagle with a 'tommy gun' in the middle, on a blue background. If any readers can shed more light on the image, please get in touch!

MISSING CELEBRITIES

In your Top 10 WWII celebrities

ON A WAR FOOTING
Commando units were established as 'raiding forces' after the Dunkirk evacuation

feature (issue 70), how on earth was Audie Murphy not included! He was one of the most decorated combat soldiers of the war, as well as a mighty fine actor. Unbelievable omission!

Keith Deverick, by email

You could have mentioned Richard Todd who went to Hollywood and became a very famous film star, including having a starring role in the 1956 film *D-Day the Sixth of June* – having actually taken part in the Normandy landings on that day in 1944 – and *The Dam Busters* a year earlier.

Brian Hammond, by email



YOU LOOK FAMILIAR...

Plenty of famous faces served their countries during WWII

Although not a celebrity who served in World War II, I would like to stretch the theatre of war to further because the following person is worth noting.

James Garner was an excellent actor as well as an exemplary citizen. His major roles in the television shows *Maverick* (from 1957) and *The Rockford Files* (from 1974), which demonstrated his rugged good looks and no-nonsense parlance, embodied proverbial American machismo. But what viewers saw in the actor was a reflection of his virtues: Garner was a decorated Korean War veteran, a recipient of two Purple Hearts for his selfless service, valour, integrity, and honour, demonstrated as a

US Army private assigned to a combat team that suffered heavy casualties. Garner himself sustained several wounds on his face and hands resulting from shrapnel and a mortar round. He was a fearless warrior and threw himself against the showers of bullets to save his wounded battle buddies and to accomplish his missions. After the war, Garner pursued his acting career and starred in a number of war movies, such as 1963's *The Great Escape*.

✉ Stephanie Joori Suh,
California

Editor's reply

Thanks to everyone who wrote in with their suggestions for celebs we could have included!



PICTURE POSTCARD

Thanks to Barrie Vinten from Warwickshire who emailed us this photograph of the Atomium in Brussels. Barrie took the photo in April 1958 during a school trip to Belgium!



If you'd like to share your thoughts and photo of a historical trip you've made – and possibly be featured on our Letters page – send them to us using the details in the Get in Touch box to the right.

Barrie receives a copy of *I Object, Ian Hislop's Search for Dissent*, the book accompanying the British Museum exhibition of the same name.

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ISSUE 71 - AUGUST 2019

BBC History Revealed is published by Immediate Media Company Bristol Limited under licence from BBC Studios who help fund new BBC programmes

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BBC STUDIOS, UK PUBLISHING

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Basic annual subscription rates

UK £64.87 Eire/Europe £67.99

ROW £69.00

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ARE YOU A WINNER?

The lucky winners of the crossword from issue 68 are:

B P Whitlock, Towcester

Michelle Bruce, Edinburgh

Alan Gee, Milton Keynes

Congratulations! You've each won a copy of Helen Rappaport's *The Race to Save the Romanovs* in hardback.

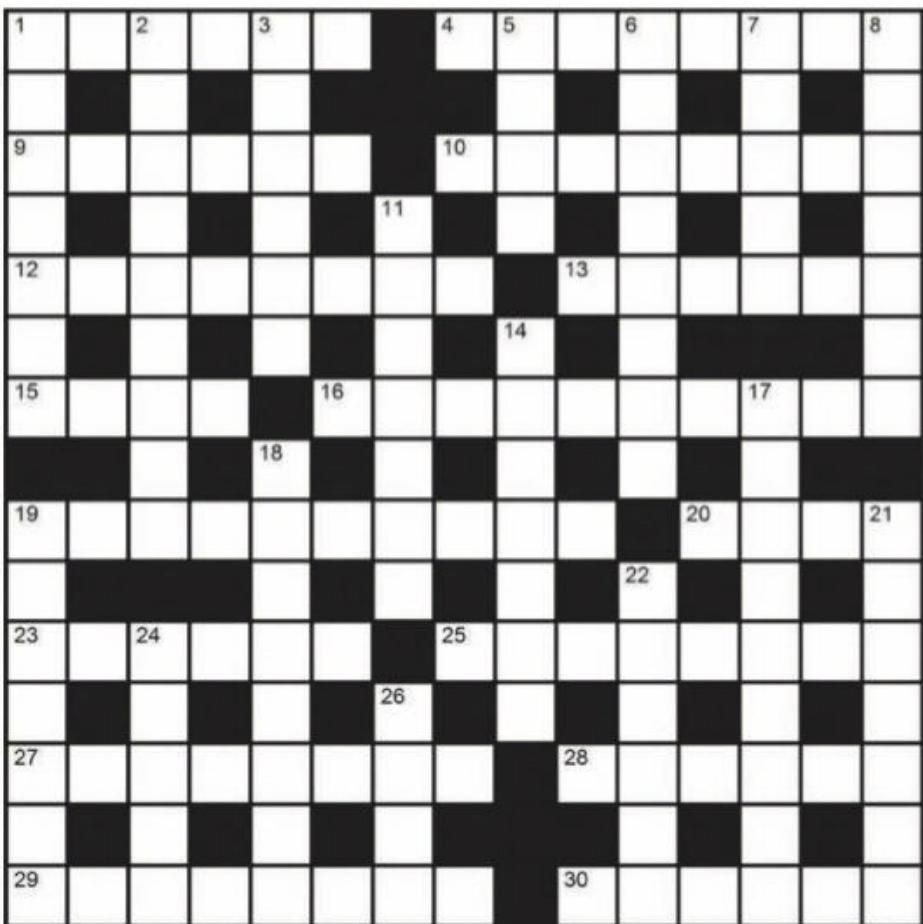


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CROSSWORD N° 71

Test your history knowledge to solve our prize puzzle – and you could win a fantastic new book

Set by Richard Smyth

**ACROSS**

- 1 Historical fiction series by Bernard Cornwell (6)
- 4 English big-band leader (1902–69) – or Tory Prime Minister (1916–2005) (3,5)
- 9 Paul ___ (1825–1904), South African soldier and statesman (6)
- 10 Willie ___ (1918–99), Conservative politician and peer (8)
- 12 In Greek myth, a son of Helios, one of the Heliadae (8)
- 13 Title assumed by German and Austrian emperors (6)
- 15 1954 sci-fi film about irradiated giant ants (4)
- 16 Asian state in the territory formerly known as East Pakistan (10)

- 19 White supremacist hate organisation founded in the US in the 1860s (2,4,4)
- 20 The Union of Soviet Socialist Republics (1922–91) (4)
- 23 “___ is eternal delight” – William Blake, 1790–93 (6)
- 25 Henry ___ (1707–54), novelist and magistrate (8)
- 27 ___ List, name given to Harold Wilson’s 1976 Resignation Honours (8)
- 28 1982 biopic directed by Sir Richard Attenborough (6)
- 29 Another name for Vishnu, the absolute being in Hinduism (8)
- 30 Political assembly of ancient Rome (6)

CROSSWORD COMPETITION TERMS & CONDITIONS

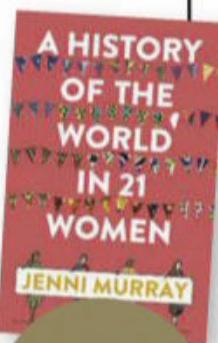
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The closing date and time is as shown under **How to Enter**, above. Entries received after that will not be considered. Entries cannot be returned. Entrants must supply full name, address and daytime phone number. Immediate Media Company (publishers of **BBC History Revealed**) will only ever use personal details for the purposes of administering this competition, and will not publish them or provide them to anyone without permission. Read more about the Immediate Privacy Policy at www.immediatemedia.co.uk/privacy-policy.

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by Jenni Murray

From Chinese Empress Cixi to scientist Marie Curie, broadcaster Jenni Murray explores the lives of some of the most extraordinary and trailblazing women history has ever seen.
Published by Oneworld Publications, £16.99



BOOK WORTH £16.99 FOR THREE WINNERS

DOWN

- 1 Ancient Egyptian warrior goddess (7)
- 2 Sir Andrew ___, character in Shakespeare's *Twelfth Night* (9)
- 3 State capital of South Dakota since 1889 (6)
- 5 Nymph in Greek mythology (4)
- 6 Anne ___ (1556–1623), wife of William Shakespeare – or US actress (b1982)? (8)
- 7 French city; Frankish kingdom (5)
- 8 Yorkshire town, birthplace of the Brontë sisters (7)
- 11 State of self-sufficiency (in a country's economy, for example) (7)
- 14 Chief of the Native American Ute tribe (1828–1913) (7)
- 17 ___ Company, trading organisation founded in 1600 (4,5)
- 18 Historical territory of France (8)
- 19 Fortified citadel in Moscow (7)
- 21 Style of jazz associated with Scott Joplin (d1917) (7)
- 22 Sir Hans ___ (1660–1753), Ulster-born naturalist and collector (6)
- 24 ___ Hoxha (1908–85), Albanian head of state from 1944 to 1985 (5)
- 26 Jerome ___ (1885–1945), US composer of musical theatre (4)

HOW TO ENTER

Post entries to **BBC History Revealed, August 2019 Crossword, PO Box 501, Leicester LE94 0AA** or email them to august2019@historyrevealedcomps.co.uk by noon on **1 September 2019**.

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SOLUTION N° 69

The winning entrants will be the first correct entries drawn at random after the closing time. The prize and number of winners will be as shown on the Crossword page. There is no cash alternative and the prize will not be transferable. Immediate Media Company Bristol Limited's decision is final and no correspondence relating to the competition will be entered into. The winners will be notified by post within 28 days of the close of the competition. The name and county of residence of the winners will be published in the magazine within two months of the

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ROBIN HOOD

The mythic outlaw has had many guises – some more real than others. Who were the men whose deeds inspired the legends?

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COUNTDOWN TO WWII: MINUTE BY MINUTE
FIRST CIRCUMNAVIGATION OF EARTH **TEN DANCES**
THAT SHOCKED THE WORLD JOSEPHINE BAKER,
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FROM THE ARCHIVES

Moments from history, told through the BBC

One of the earliest celebrity chefs, Marguerite Patten (left), supervises a baking demonstration



FEAST FOR FEMALE VIEWERS, 1948

After World War II, women in Britain – many of whom had stepped into the workplace to do the jobs of the men who were away fighting – were being encouraged back into the home. After the success of *Woman's Hour*, first broadcast on the BBC's Light Programme (now called Radio 2) in 1946, the BBC decided to expand its offerings by creating a TV show especially aimed at women. First broadcast in 1947, *Designed for Women* was a magazine show full of domestic topics believed to be of special interest to women, such as baking (as seen above), hair styling and slimming exercises.

GETTY IMAGES

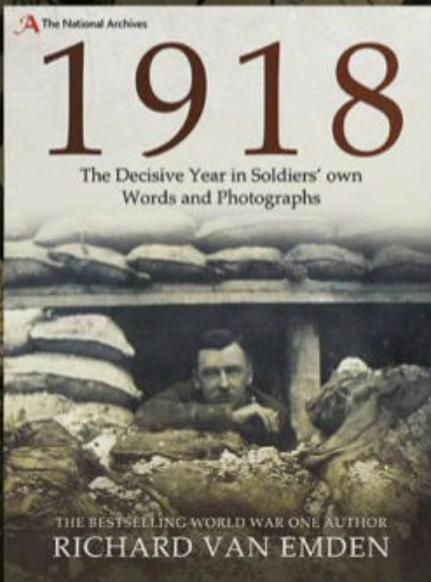


Woman's Hour – now presented by Jenni Murray and Jane Garvey – has aired on BBC Radio for more than 70 years. Listen to current and past episodes on BBC Radio 4 www.bbc.co.uk/programmes/b007qlvb

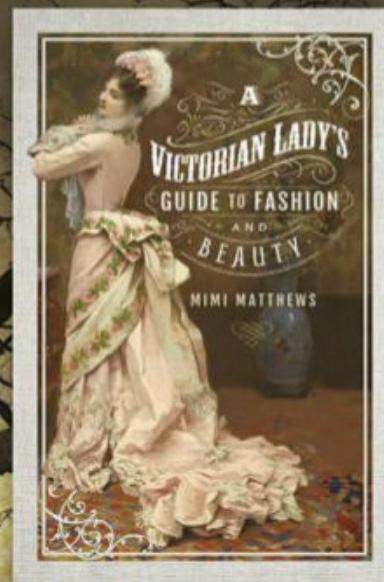
Jenni Murray will be speaking at *BBC History Magazine's Winchester History Weekend* in October – turn to page 70 for more information

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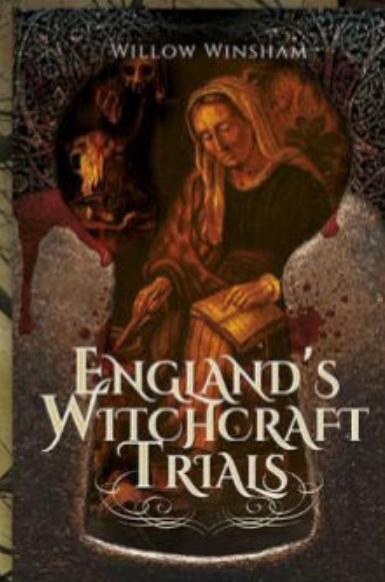
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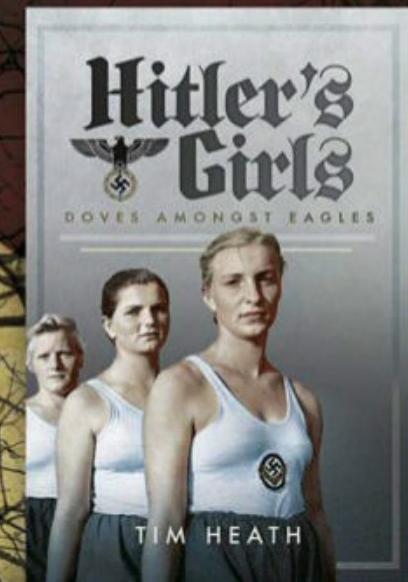
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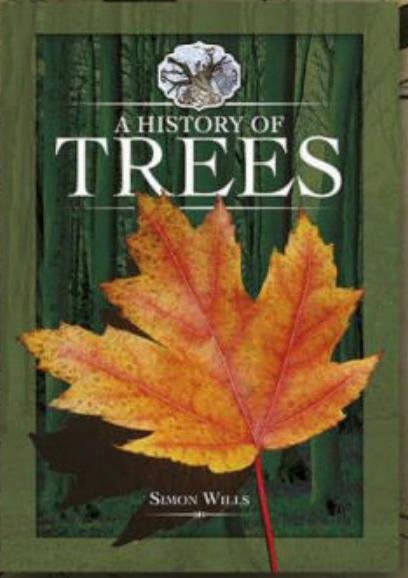
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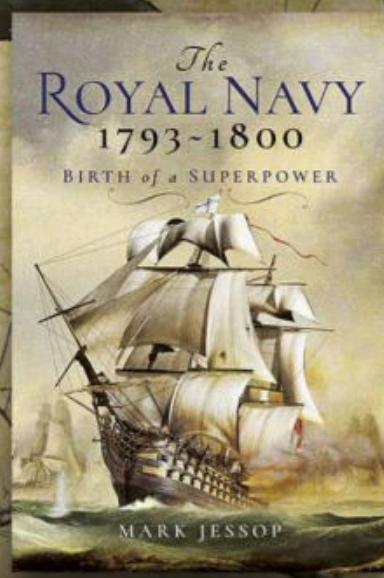
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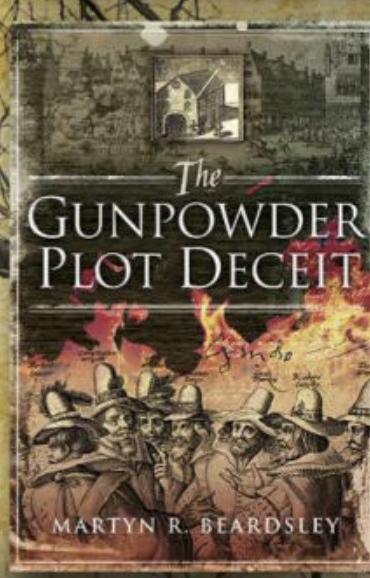
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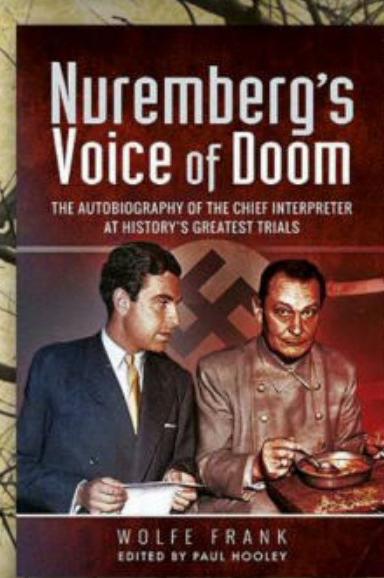
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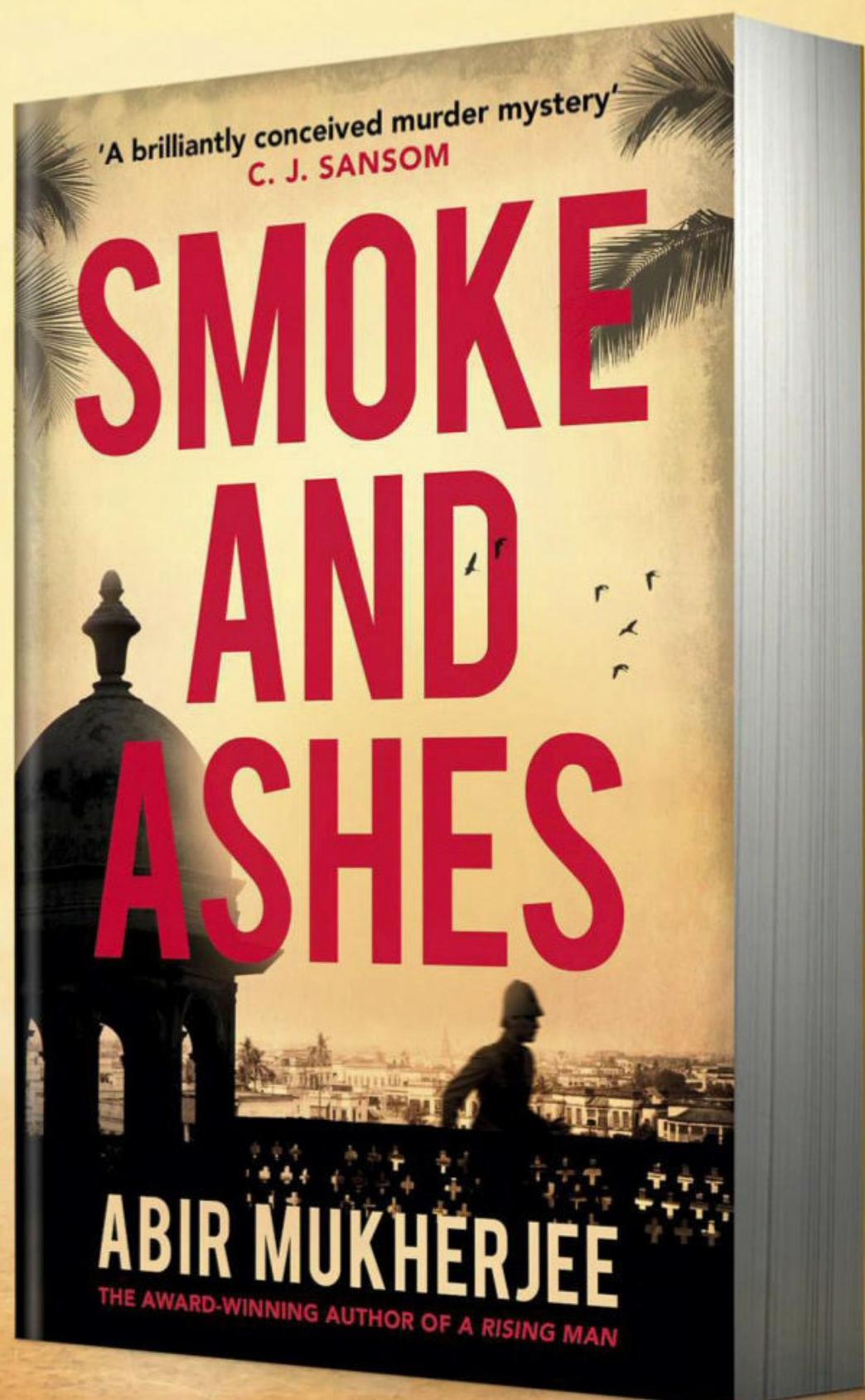
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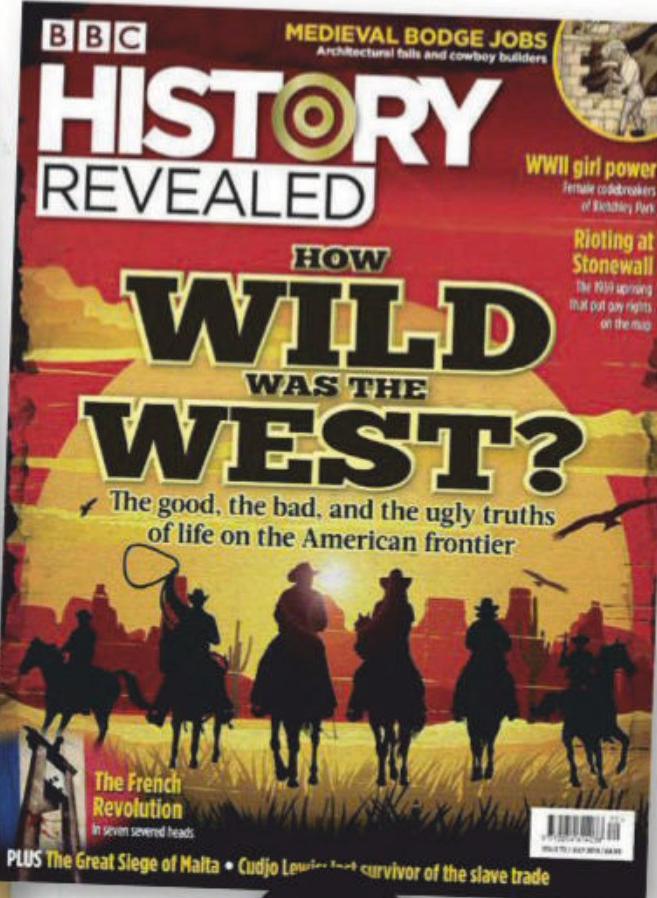
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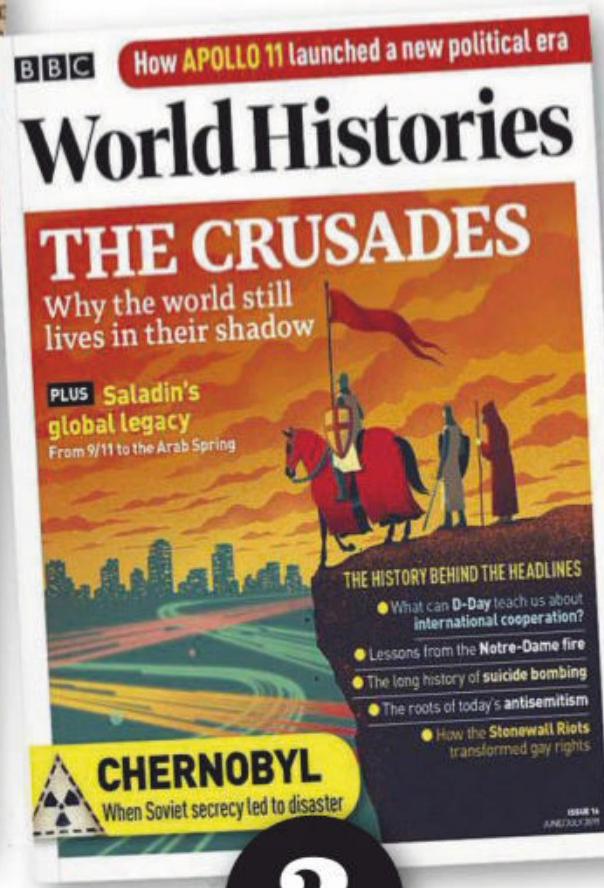
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Welcome



If you're stuck for ideas for days out this summer, look no further: part two of our 'Family Days Out This Summer' mini-magazine is packed **full of historical inspiration**.

Take a trip underground at Big Pit National Coal Museum and explore South Wales' long history of coal and industry, or take a trip back to Roman Britain and discover **what the Romans really did for us**.

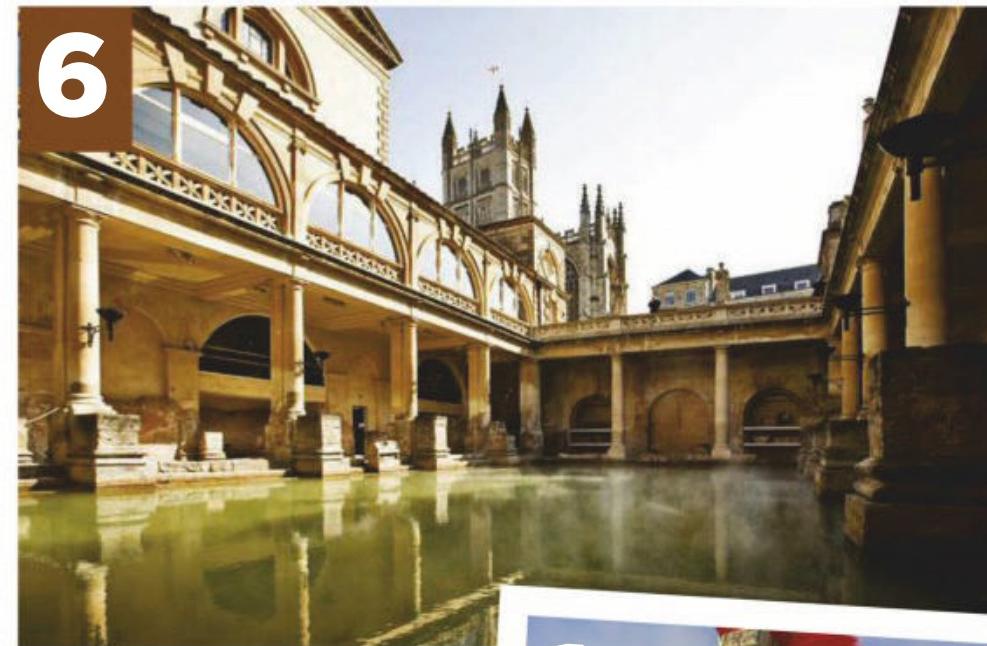
Head off the beaten track and uncover historical dog collars at Leeds Castle in Kent or pencils in Cumbria at some of Britain's more **unusual museums**. And for anyone looking to get their hands dirty, we've included details of a host of activities and **archaeological digs** for all ages. If your historical tastes are more regal, why not take in the majestic sights of **Hampton Court Palace**, home to some of British history's most famous faces – from Tudor titan Henry VIII (who brought **all six of his wives** to the palace) to William III and Mary II.

However you decide to spend your summer, have fun!

Charlotte Hodgman

Editor

Charlotte



The best preserved frontier of the Roman Empire, Hadrian's Wall stretches across northern England



HOW TO VISIT ROMAN RUINS

What's in store at Britain's millennia-old Roman sites

Throughout its years as a part of the Roman Empire, from AD 43 to AD 410, parts of Britain became heavily Romanised. Though many centuries have passed since the Romans left, evidence of their time remains, hidden beneath the soil.

While most civilians probably continued to live in small settlements similar to those of pre-Roman times, local nobles and the elite were encouraged to move into Roman-style towns where they could be more easily controlled – and taxed. These towns were built of brick, stone and wood, in styles adapted from those of the Mediterranean.

Some wealthy families lived in villas – large rural houses that formed the centre for farmland estates. These homes were often ornately finished, with marble sculptures and mosaic floors.

At this time, Roman Britain had a large number of military bases, needed to protect against attacks from those outside the

empire's reach. As a result, there are many preserved forts, barracks, roads and camps to explore.

EXIT STRATEGY

The Roman Empire went into decline after AD 300. Towards the end of the 4th century, some experts think that the economy was in disarray – with towns being partially abandoned, and many of the luxurious villas being converted into workshops.

The Romans finally withdrew from Britain in the early 5th century, and a couple of centuries later, new kingdoms (which later historians have called Anglo-Saxon) had been established. Apart from a few places where stonework survived above ground, most Roman sites have only been revealed to us again by archaeologists. ☺

TURN OVER FOR...
Six of the best Roman sites to visit in Britain

A HOME FROM ROME

Though most of the Roman sites in Britain are ruins, there is still much to be seen if you know what to look for. Houses and villas may have been reduced to their foundations, but amid the rubble lie remnants of the ancient world. Many of the elements below were commonplace Roman innovations...

TILED ROOF

Tiled roofs were more waterproof, easier to maintain and more hygienic than the thatched roofs that had been common in pre-Roman days.



BRICK WALLS

Fired bricks were unknown in Britain before the Romans, and most buildings were made of timber. Roman bricks were thinner than modern bricks, but usually wider and longer. Decorative detailing was often included, too.

WATER POOL

Rainwater from the roof collected in a pool. This fed a cistern from which the household drew its water. Some larger pools were used to keep fish and were termed '*piscina*'.

STONE PILLARS

Using stone pillars to support roofs was an architectural style brought to Britain by the Romans. In fact, many apparently stone pillars were made of brick, covered in plaster and painted to look like stone.



OVEN

A wood-fired oven was commonly used to bake - especially for bread. A wood fire was ignited inside the oven to heat it thoroughly before the food to be cooked was placed inside.

ROAD SURFACES

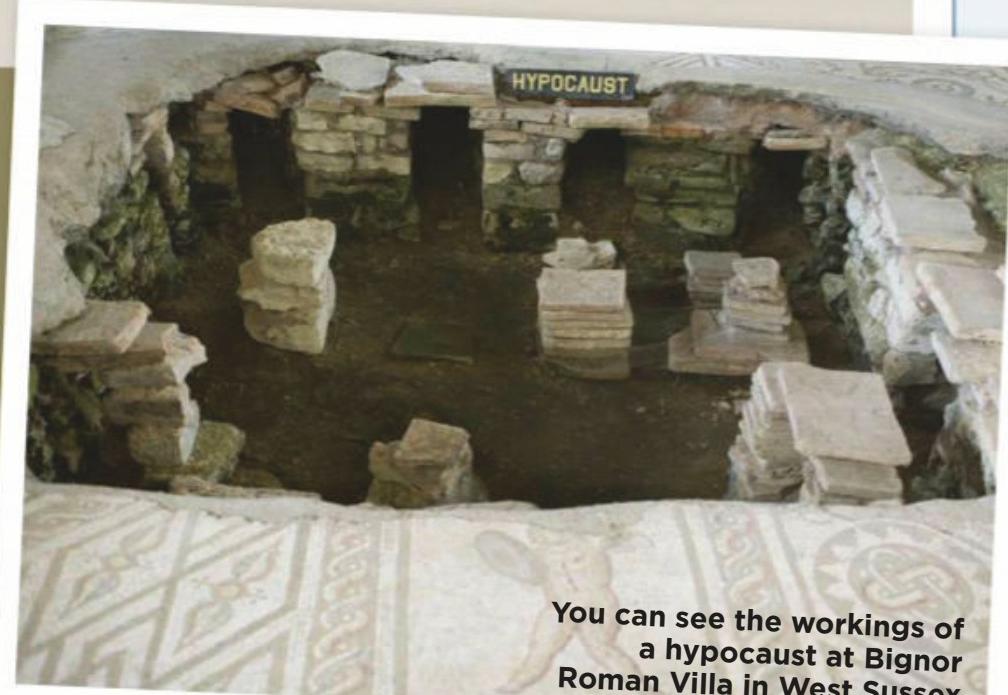
The Romans used flagstones to create a smooth surface for carts and pedestrians in towns and along some particularly busy roads. In most areas, roads were surfaced with gravel, which was packed down hard by repeated pounding.

POTTERY

The pottery industry was crucial. There were a small number of large factories that produced a wide range of pots, plates and jugs. Fragments of these are common finds at Roman sites.

HYPOCAUSTS

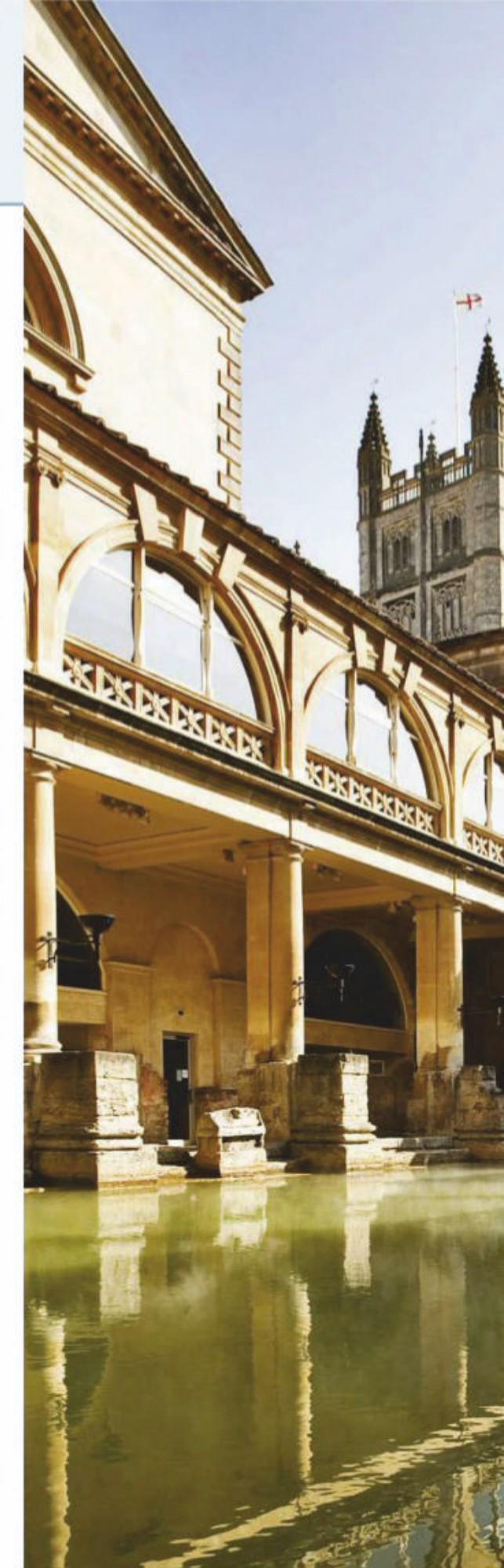
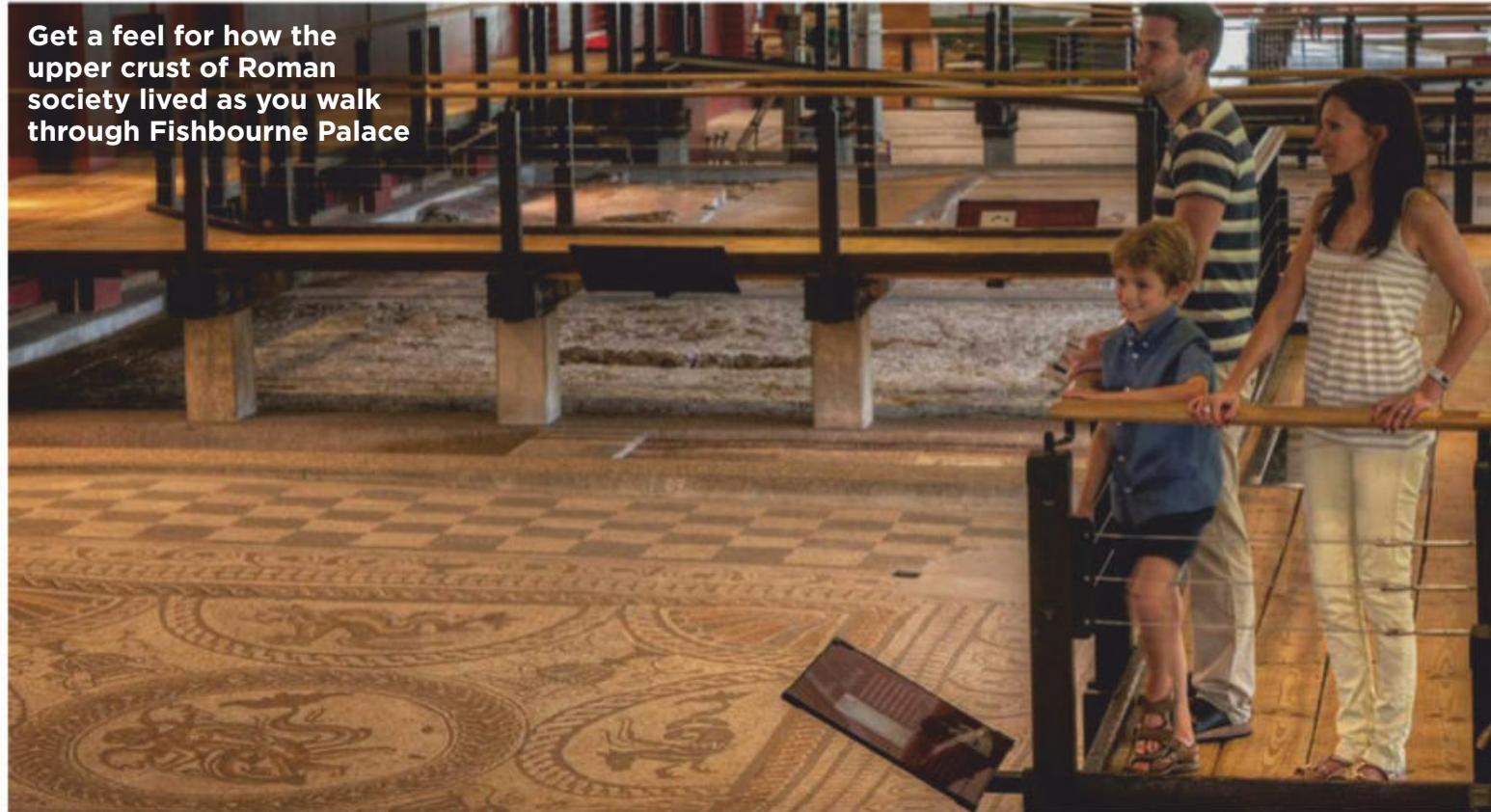
Perhaps it is reflective of the British climate that the Romans installed heating systems in the villas and houses they built in the area. The hypocaust is a basic but ingenious form of underfloor heating. Floors were placed on top of small brick or tile pillars, creating a large cavity beneath them. Hot air from a fire outside the room was directed beneath the floor, warming the home without the residents being bothered by a smoky fire.



You can see the workings of a hypocaust at Bignor Roman Villa in West Sussex

SIX OF THE BEST... ROMAN SITES TO VISIT

Get a feel for how the upper crust of Roman society lived as you walk through Fishbourne Palace



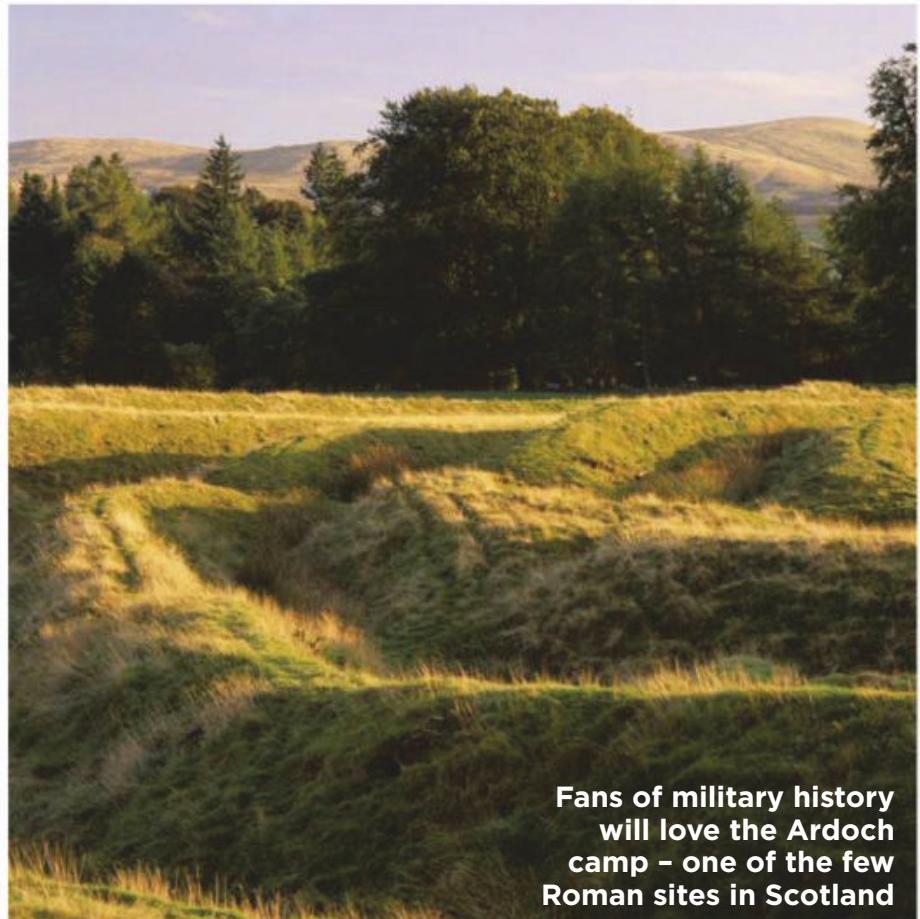
FISHBOURNE PALACE West Sussex

The ruins at Fishbourne are the remains of a massive palace that was as large as the Imperial Palace in Rome itself. It was one of the largest Roman houses in the entire Empire. The site boasts a museum packed with artefacts found at the site as well as exhibits. The

most luxurious wing of the palace is open to the public. The rooms include mosaics of outstanding quality, including a stunning dolphin design. The garden is worth a look too, as it has been replanted to be authentic to the Roman period. The palace was

built in about AD 90, but mystery surrounds who could have afforded such a vast residence. The most likely person was a local ruler named Cogidubnus. The palace was abandoned after a fire around AD 280.

www.sussexpast.co.uk



Fans of military history will love the Ardoch camp – one of the few Roman sites in Scotland

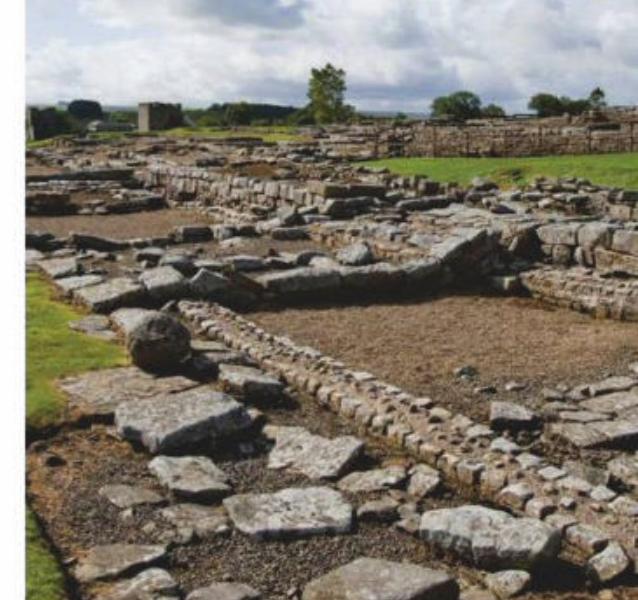
ARDOCH ROMAN FORT

Perthshire

Close to Braco village, Ardoch is the most complete Roman military camp in Britain. There are, in fact, seven temporary marching camps at this site. The area was probably first occupied during Agricola's campaign to conquer the lands north of the River Forth in the AD 70s. The most visible remains date to a later period, perhaps around AD 210, when the Romans again tried to subdue the region. The fort was built of timber on earthworks and while the timber has long since rotted away, the earthworks remain in good condition and it is easy to trace out the layout of the camp.

www.undiscoveredscotland.co.uk/braco/ardochromanfort

Vindolanda is a treasure trove of Roman artefacts, from coins to ancient letters



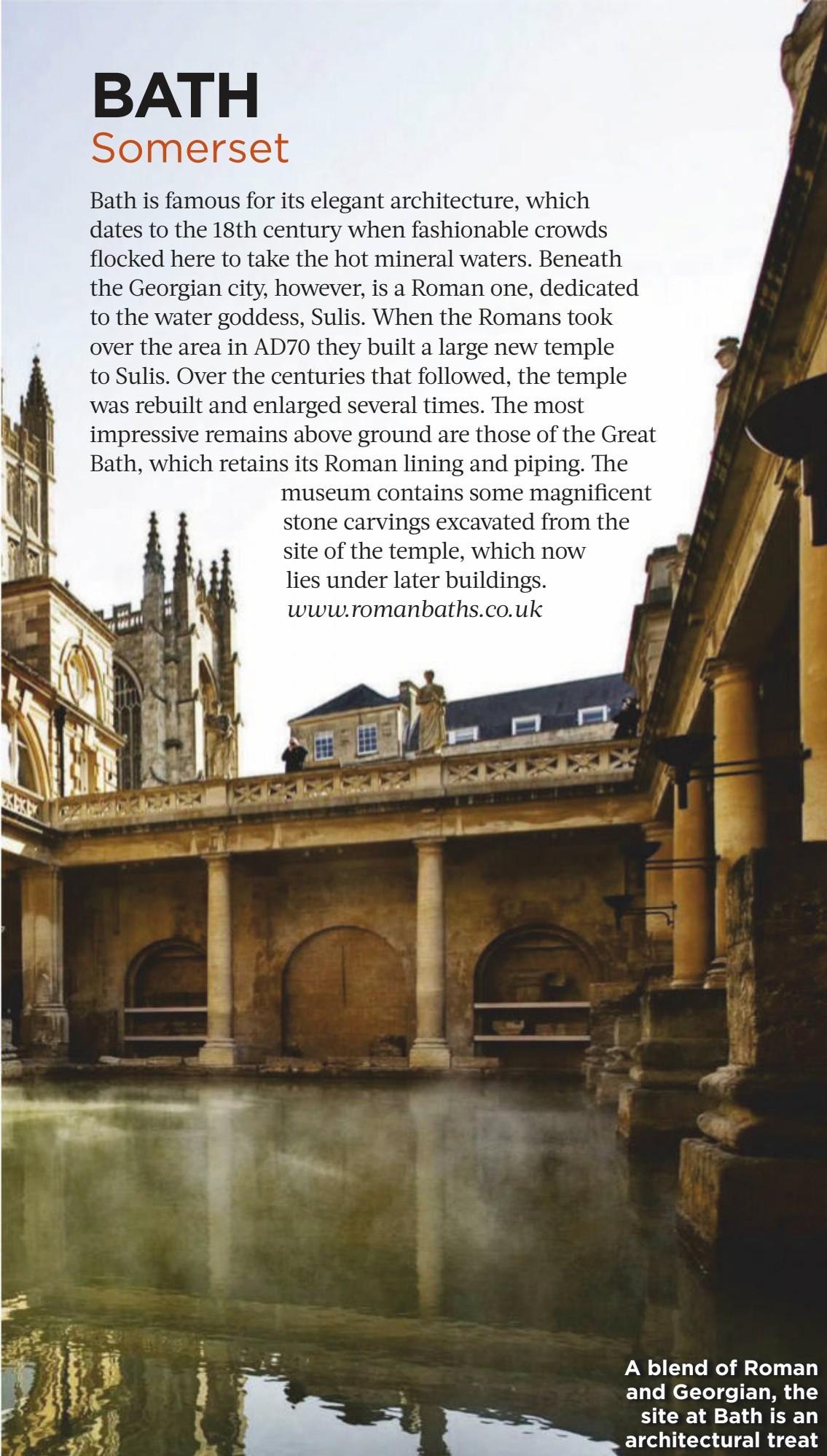
BATH

Somerset

Bath is famous for its elegant architecture, which dates to the 18th century when fashionable crowds flocked here to take the hot mineral waters. Beneath the Georgian city, however, is a Roman one, dedicated to the water goddess, Sulis. When the Romans took over the area in AD70 they built a large new temple to Sulis. Over the centuries that followed, the temple was rebuilt and enlarged several times. The most impressive remains above ground are those of the Great Bath, which retains its Roman lining and piping.

The museum contains some magnificent stone carvings excavated from the site of the temple, which now lies under later buildings.

www.romanbaths.co.uk



A blend of Roman and Georgian, the site at Bath is an architectural treat

VINDOLANDA

Northumberland

The fort at Vindolanda is one of the most educational and entertaining Roman sites in Britain. The ruins mostly date to about AD 300, when the fort was rebuilt after what seem to have been disturbed times in the area. The earlier stone fort of AD 212 also seems to have been built on the site of a wooden fort of about AD 85, but little remains of these earlier structures. To the west of the fort are the remains of a civilian settlement – a *vicus* – where traders, wives and children lived. The on-site

museum contains a wide range of coins, armour and pottery found at the site, along with a full-size reconstruction of a temple, a shop and house. However, the most famous exhibit in the museum is a collection of wooden tablets that were found here covered with handwriting in ink – the oldest in northern Europe. The tablets translated so far are a mix of personal and business letters, including party invitations and letters from Rome.

www.vindolanda.com



WROXETER

ROMAN CITY

Shropshire

Most of the Roman settlements in Britain have been built over, and are now covered by modern towns, but Viroconium Cornoviorum was abandoned completely. The ruined town covers 173 acres and was once the fourth largest in Britain – it may have had a population close to 20,000. The largest free-standing Roman ruin in Britain

is the archway entrance to the baths, but most of the ruins take the form of foundations only. A must-see feature is the modern reconstruction of a Roman house. It was built in 2011 using only tools and techniques from Roman times. A small on-site museum contains some of the finer artefacts excavated on the site.

www.english-heritage.org.uk



Walk through the ruins of what was once a thriving civilian city

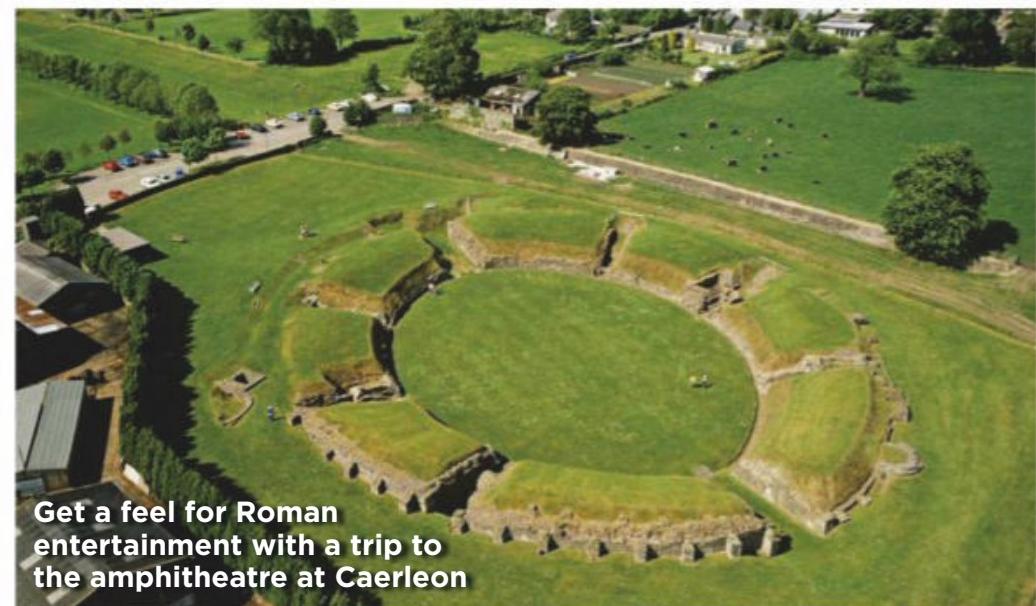
CAERLEON

Newport

The Roman amphitheatre at Caerleon is the best preserved in Britain. It was built in about AD 90 and had a seating capacity of some 6,000. It is unusual in having eight entrances instead of the standard two, so may have had some specialist purpose linked to the nearby Roman fort. In AD 310, two British Christians, Aaron and Julius, were martyred here

for their faith. A small church dedicated to them stands nearby. Alongside the amphitheatre are the remains of the baths, barracks and the fortress walls, which stand at a height of some three metres. The site also boasts the National Roman Legion Museum, which houses artefacts and exhibitions on the Roman army.

www.caerleon.net/intro



Get a feel for Roman entertainment with a trip to the amphitheatre at Caerleon



BRITAIN'S TREASURES... HAMPTON COURT PALACE London

GETTING THERE

Accessible by car (postcode KT8 9AU), train (Hampton Court Station is 200 metres from the gates), bus from Kingston and Richmond, and even river boat



TIMES AND PRICES

Palace open 10am-6pm (4.30pm in winter); garden opening times vary. Adults £21.30, children £10.70.

FIND OUT MORE

Visit [www.hrp.org.uk/
HamptonCourtPalace](http://www.hrp.org.uk/HamptonCourtPalace)

A medieval manor was transformed into a lavish Tudor palace that witnessed some of England's most dramatic episodes

The year was 1528 and Cardinal Thomas Wolsey, lord chancellor to King Henry VIII, was in trouble. He had failed to obtain a papal annulment of the King's first marriage, which Henry was desperate to secure so he could marry his new paramour, Anne Boleyn. Wolsey's vast palace at Hampton Court, which at that time lay around ten miles southwest of London, passed to Henry – hence Hampton Court Palace became the backdrop for successive Tudor dramas.

It was from here that Henry VIII sent the first letter threatening a break from Rome in 1530. It was here that the future King Edward VI was born, and where his mother, Jane Seymour, Henry VIII's third wife, died in 1537.

It was here that Henry VIII divorced wife number four, Anne of Cleves, in 1540; here that it was discovered that wife number five, Catherine Howard, was quite the extramarital bed-hopper (1541); and here that Henry wed his final wife, Catherine Parr, in 1543.

Following generations brought more crises still. In 1555, 'Bloody' Mary I's phantom pregnancy came to its sad end at the palace; in the same year, Mary had the future Elizabeth I placed under house arrest here, fearing that she might incite a Protestant rebellion.

THE BUILD

After Wolsey acquired the property in 1514, he transformed a modest medieval manor house into a palatial complex. Henry VIII

Wolsey's Great Gatehouse,
originally five storeys, was
reduced to three in 1838

WHAT TO LOOK FOR...



GREAT HALL

England's greatest surviving medieval hall has hosted plays presented by Shakespeare himself.



MAZE

Designed in the reign of William III, this famous maze has been disorientating visitors since 1700.



CHAPEL ROYAL

This chapel has been used for over 450 years. Admire the dazzling ceiling installed by Henry VIII.



TUDOR KITCHENS

The chefs in the largest kitchens in Tudor England had to cook enough to feed 600 people twice a day.



HENRY'S CROWN

Worn by Henry VIII and later used in the coronations of all of his children, a replica is displayed today.



PRIVY GARDENS

These pleasing geometric gardens created for William III in 1702 have been restored to their original glory.

“Henry’s palace had 3,345 square metres of kitchens and a multiple-occupancy loo”

undertook further works to create the most sumptuous and sophisticated palace in England, with tennis courts, pleasure gardens, kitchens covering 3,345 square metres, even a multiple-occupancy wardrobe (lavatory).

The next major works were undertaken by William III and Mary II in 1689. They commissioned architect Christopher Wren (whose new St Paul's Cathedral was then under construction) to demolish much of the Tudor palace and rebuild it in the fashionable Baroque style, shaping the edifice we see today. The royal pair also re-landscaped the grounds, introducing formal gardens and exotic flora.

It is largely thanks to Queen Victoria that the palace is in such a good state today. George III had abandoned the palace as a residence around 1760, and little further work was undertaken till after Victoria declared in 1838 that the house “should be thrown open to all subjects without restriction”.

This sparked drastic restoration works, including ‘re-Tudorisation’ of the Great Hall and other areas. Over the following 13 years, about £91,000 – in excess of the more than £5 million today – was invested in the project.

PLAN YOUR VISIT

This summer there are a number of special events being held on the grounds, including

the Real Tennis Champions tournament (15–21 July), a food festival (24–26 August), and a Tudor sporting academy that includes archery and sword skills (3–11 August). Join a costumed guide to take you on a tour of the palace and – if you are in the right place at the right time – where you might be able to witness real episodes from the Hampton Court’s past being played out across the palace, or catch a private moment with one of Henry’s queens. Indeed, there’s an incredible amount to see and do – you could easily spend a whole day wandering around the grounds. Check the palace’s website to see what’s on to help you plan your visit. ☺

WHY NOT VISIT...

Make a weekend of it

ROYAL BOTANIC GARDENS, KEW

Kew’s historical and horticultural delights include the Victorian Palm House and formal gardens.
www.kew.org

KINGSTON MUSEUM

Absorb local history dating back to palaeolithic and Bronze Age times, including a coin hoard.
www.kingston.gov.uk/museum

BROMPTON CEMETERY

Consecrated in 1840, inhabitants include doctor John Snow and suffragette Emmeline Pankhurst.
www.brompton cemetery.org.uk

MAIN: Perfectly preserved, Blaenavon's last deep coal mine is now a key heritage site

INSET: A giant submerged industrial wheel welcomes visitors to the museum



BRITAIN'S TREASURES... BIG PIT NATIONAL COAL MUSEUM Wales

Head underground at this former working coal mine and World Heritage Site, as you are taken back to the Industrial Revolution...

GETTING THERE:
To access Big Pit by car, exit the M4 at J25a (westbound) or J26 (eastbound) and follow the brown signs. Regular buses run from Blaenavon town to Big Pit, Monday to Saturday.



TIMES AND PRICES:
Open 9.30am–5pm daily.
Underground Tours run 10am–3.30pm. Entry is free.

FIND OUT MORE:
Call 0300 111 2333 or visit www.museumwales.ac.uk/bigpit

Big Pit – a colliery in the southern Welsh town of Blaenavon – closed its doors on 2 February 1980. In its 19th-century heyday, the mine had supported thousands of locals but, as the 1980s were beginning, this mine gave up its last lumps of coal. Big Pit, however, hadn't quite finished providing for the local community yet as three years later, its doors reopened. The mine was no longer a fossil-fuel production point, though – it was now a cutting-edge museum, dedicated to preserving and remembering the important mining industry of

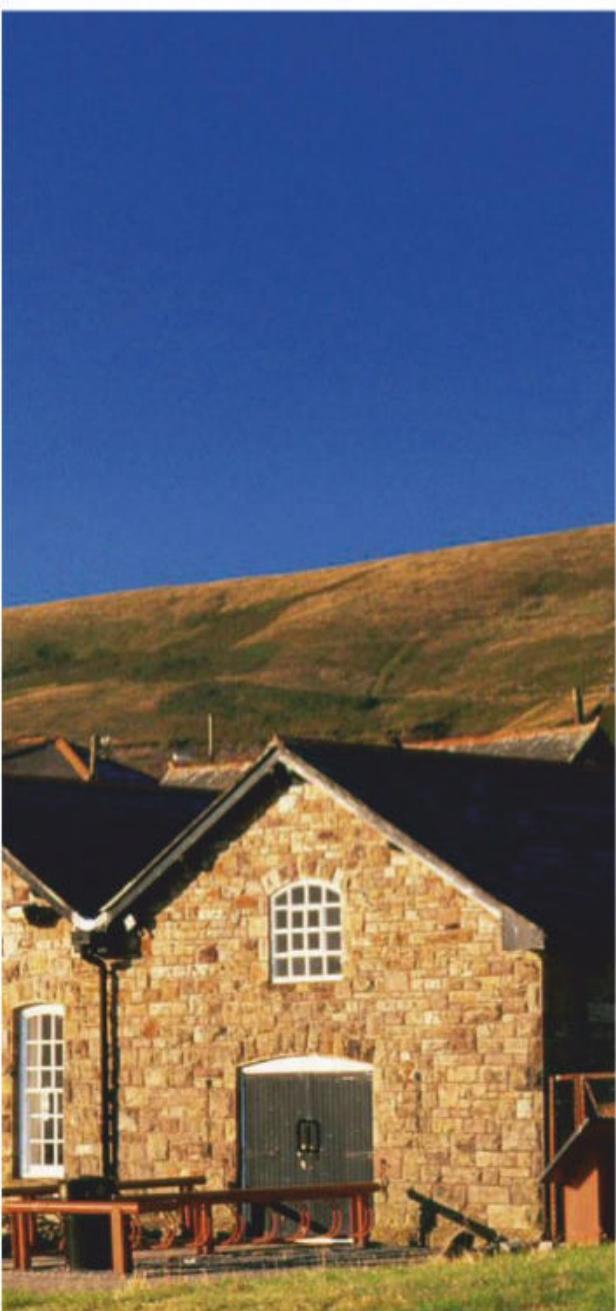
South Wales. Since that day, over 3.5 million people have visited Big Pit, and discovered the incredible legacy of the site.

THE SOURCE

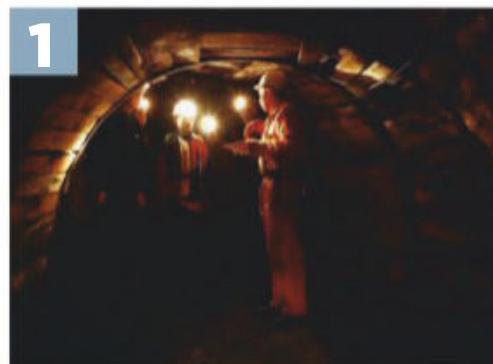
There is evidence that coal mining took place in the area as far back as Roman times, when the black gems were picked from the hillsides of what is now the South Wales Coalfield. But coal wasn't the only resource Blaenavon's ore-rich landscape held – iron and limestone were also found, and so, in the late 18th century, an ironworks was founded. By

1796, the metal manufactory was the second largest in Wales, and coal production became a key supportive industry.

Big Pit itself started life as Kearsley Pit, established at some point in the early or mid-19th century. In 1860, Kearsley's shaft was sunk to a depth of 39 metres. Two decades later, Kearsley was sunk further still, to 91 metres, and given an elliptical shaft. This is when it became known as Big Pit. After this, the colliery turned into quite the industrial powerhouse, encompassing several local



WHAT TO LOOK FOR...



UNDERGROUND TOUR

Get a taste of life at the coalface with trip down the mineshaft. You'll get a helmet, a 5kg lantern to carry and a former miner as a guide.



THE PITHEAD BATHS

Built in 1939 to improve conditions for the workers, these buildings now house several exhibitions on Welsh mining.



WINDING ENGINE HOUSE

Take a look at 'the winder', the 65-year-old machine that raises and lowers the cages to carry men, kit and coal up and down the pit.



THE BLACKSMITHS' YARD

In this yard you'll see some of Big Pit's oldest buildings. When the site was an active colliery, the smiths forged whatever was needed, from horseshoes to hammers



THE POWDER MAGAZINE

The explosives store is safely tucked away, far from the other buildings on the site. It was designed so that any explosions would blast away from the mine.



MINING GALLERIES

Get an idea of how the colliery moved into the modern era, and take a look at some of the 20th century's most sophisticated, mechanised mining machines.

"In 1913, a subterranean blaze broke out"

mines – its oldest (Forge Level) was founded c1812.

The region earned the title of 'King Coal' between the 1880s and World War I, when it reached peak-productivity with its top-quality coal being highly sought after. In 1913, the South Wales Coalfield produced, in total, some 60 million tons of fuel. At that time, Big Pit was key to the success of the region as it employed around 1,300 men and its coal was shipped around the world.

DANGER ZONE

With Blaenavon's success came great risk – mines are notoriously dangerous places to work, and Big Pit was no exception. In 1913, a subterranean blaze broke out. All of the miners were evacuated

but three officials were caught in the toxic fumes when they entered the burnt-out seam to investigate the cause of the fire. Even though many miners volunteered for the rescue party, they were too late.

In the 1920s, Britain's mining industry went into decline. Despite this, a number of renovations took place at Big Pit in the mid-20th century, including the construction of the Pithead Baths (see above) on site in 1939. Previously, the miners would walk home still sooty from work, risking illnesses like pneumonia.

Eventually, the mine did succumb to the industry-wide slump. When it closed in 1980, Big Pit employed just 250 people (less than a fifth compared to

its glory days). Yet plans were already in the works to create an extraordinary museum.

YOUR VISIT

With former miners as guides and plenty to fascinate children and adults alike, Big Pit can easily entertain and enlighten a family for an entire day. The highlight of the visit is the underground tour (see above) – warm clothes and good solid shoes are essential, as it can be chilly and slippery down the pit.

Elsewhere on the site, which – along with the rest of the town – gained UNESCO World Heritage status in 2000, you'll be able to see exhibitions, historic buildings and even a railway, together telling the story of Welsh mining throughout the ages. ☺

WHY NOT VISIT...

Make the most of your day in the World Heritage Site of Blaenavon

BLAENAVON WORLD HERITAGE CENTRE

A great start to a day in Blaenavon, this free centre provides an overview of the town's history.

General enquiries: 01495 742333

BLAENAVON IRONWORKS

Blaenavon town sprang up after these ironworks were founded in 1789. Many original buildings remain, including furnaces, kilns and housing.

www.cadw.gov.wales

PONTYPOOL AND BLAENAVON RAILWAY

Take a heritage steam train ride through scenic South Wales – regular services operate in peak season.

www.pbrly.co.uk

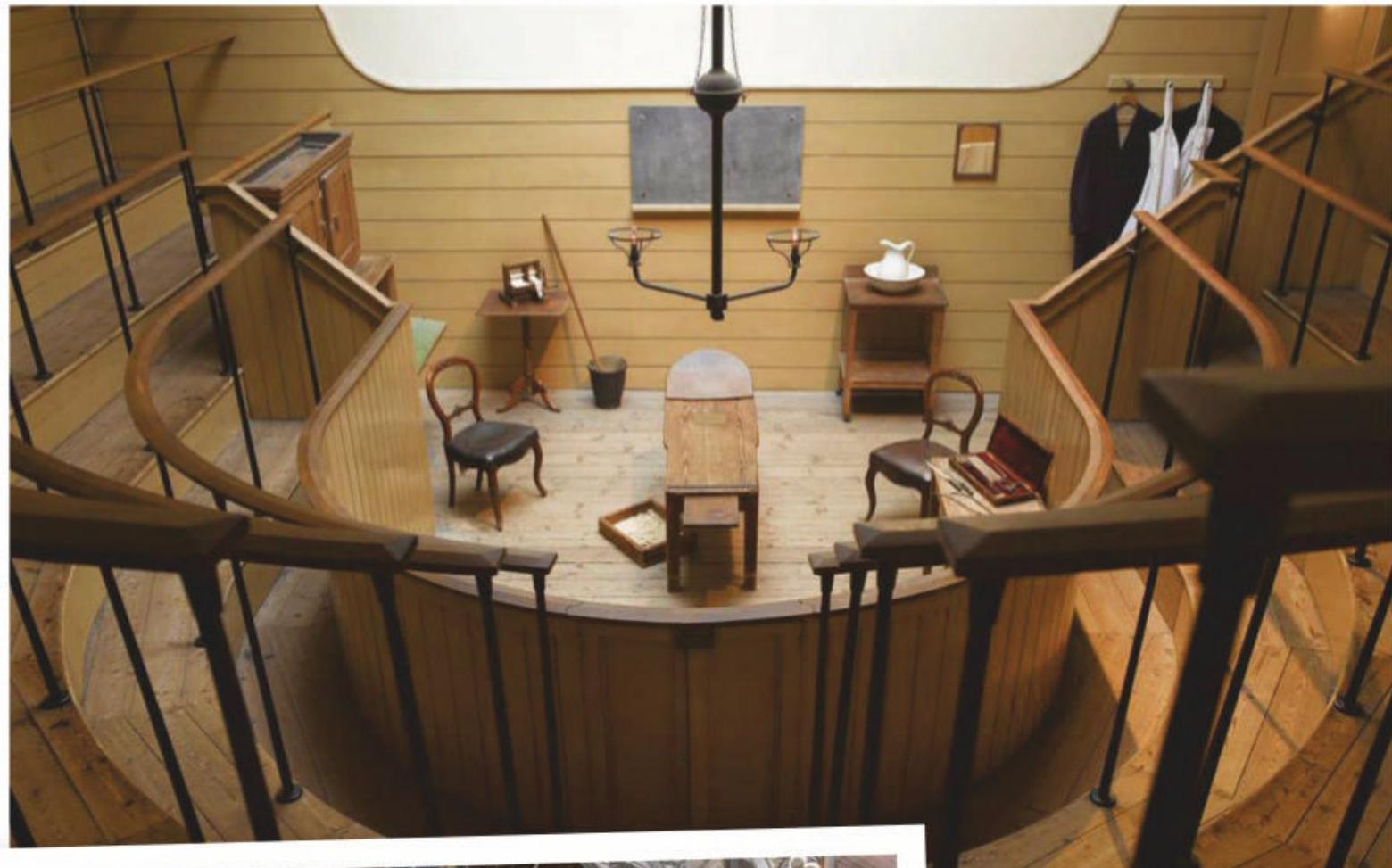
TOP 10... UNUSUAL MUSEUMS

SAY ARGHHH

Old Operating Theatre

London,
www.oldoperatingtheatre.com

As Europe's oldest surviving operating theatre, this museum gives visitors a wealth of knowledge about medicine and surgery from the early 19th century. Housed in the garret of St Thomas's Church, it was first used 25 years before the use of anaesthetic and was part of the original St Thomas's hospital. Open Monday 2pm-5pm and Tuesday-Sunday 10am-5.30pm. Adults £6.50, children £3.50.



HAVE A BALL

House of Marbles

Bovey Tracey,
Devon, www.houseofmarbles.com

With not just one but three museums here, learn all about the world of marbles – including fun marble runs that you can set up yourself. The games museum shows how families have enjoyed their leisure time as far back as the 1600s. Uncover the 4,000-year history of glass and its been used. You may even get a glimpse of some glassblowing in action. Open Monday-Saturday 9am-5pm, Sunday 10am-5pm. Entry is free.



ENDLESS VARIETY

Pitt Rivers Museum

Oxford, www.prm.ox.ac.uk

Home to the archaeological and anthropological collections of the University of Oxford, the Pitt Rivers Museum houses more than 600,000 fascinating items from all periods of human existence. Highlights include shrunken heads from South America and a more than 4,000-year-old ox shovel found near Avebury stone circles. Open Monday 12pm-4.30pm and Tuesday-Sunday 10am-4.30pm. Entry is free.

Unusually, the artefacts at Pitt Rivers are organised by type, not by region or era

This operating theatre also has a gallery: surgeries here were once spectator events

ABOUT TIME

Cuckooland

Tabley, Cheshire, www.cuckoolandmuseum.com

This museum is home to more than 600 cuckoo clocks, collected by two brothers for over 40 years. These charming clocks were developed in the Black Forest area of Germany in the 17th century. Visit is by appointment only: call 01565 633039 or visit the website for available times and prices.





The house is now considered unfit for habitation

BREATHE IN

The Smallest House in Great Britain

Conwy, Wales, www.thesmallesthouse.co.uk

At just 72 inches wide, this tiny, 16th-century home in Conwy is the smallest house in Britain – it has just enough space for a living area downstairs and a bedroom upstairs. It was last occupied in 1900 and saved from demolition to be opened up to the public. Open seven days a week, 10am–4pm. Adults £1, children 50p.



LEAD-ING EXHIBIT

The Dog Collar Museum

Leeds Castle, Kent, www.leeds-castle.com

Who knew dog collars had such a lengthy history? This museum has a collection of canine neckwear spanning five centuries – from decorative collars made of silver to formidable examples with iron spikes. Leeds Castle – in which the museum is housed – is more than 900 years old and also well worth a visit. Open seven days a week, 10.30–5pm (4pm between October and March). Admission is included with a ticket to Leeds Castle: Adults £26, children £17.50.

TO THE POINT

Derwent Pencil Museum

Keswick, Cumbria, www.derwentart.com/en-gb/c/about/company/derwent-pencil-museum

The pencil remains a vital tool for artists and students alike and at the Derwent Pencil Museum, you can learn all about its interesting history – including pencils used during World War II containing secret maps. You'll also find the largest colouring pencil in the world, measuring at nearly eight metres long. Open seven days a week, 9.30am–5pm. Adults £4.95, children £3.95.

CLOSE TO THE BONE

Grant Museum of Zoology

London, www.ucl.ac.uk/culture/grant-museum-zoology

One of the oldest natural history collections in the UK, the Grant Museum is home to an exhibit of dodo bones – one of the earliest species to suffer human-induced extinction, in 1681. The museum also holds a collection of mammal brains and one of the rarest skeletons in the world, belonging to a quagga – a South African species of Zebra that went extinct in 1883, and of which only seven skeletons have ever been found. Open Monday–Saturday 1pm–5pm. Free entry.

GOING DEEPER

Scotland's Secret Bunker

Troywood, Fife, www.secretbunker.co.uk

Unnoticed by the untrained eye, underneath the Scottish countryside lies a secret nuclear bunker, built in 1953. The entrance is in an unassuming stone building, but the structure below reveals how real the threat of nuclear war was once perceived to be. Constructed by the RAF, it could hold up to 300 people in its dormitories. The RAF Operations Room has been restored to resemble what life was like in the bunker. Open seven days a week, 10am–5pm. Adults £12.95, children £8.95.



It wasn't too long ago that handheld computers were confined to the minds of sci-fi authors

GRAB A BYTE

Centre for Computing History

Cambridge, www.computinghistory.org.uk

Today many of us take computers for granted, but it wasn't that long ago that they were deemed an innovative and even alien invention. From the mechanical calculators developed in the late 19th century through to modern game consoles, discover the story of how this amazing technology came to life. Open Wednesday–Sunday, 10am–5pm (open seven days a week during school holidays.) Adults £9, children £6.

GO EXPLORE... ACTIVITIES AND DIGS

20 JULY - 1 SEPTEMBER

Get hands on with history

Chesters Roman Fort, Hadrian's Wall, www.english-heritage.org.uk/visit/whats-on/chesters-ghowh-romans-20-jul-21-sep-2019/

Chesters Fort isn't in Chester – it's on Hadrian's Wall, the frontier of Roman Britain, and was once home to 500 Roman soldiers. Experience what life was like here 2,000 years ago as you enrol in sword school and learn the Imperial army's marching drills. Budding archaeologists can try and find some lost Roman treasure amongst the fort's ruins. Tickets for the fort also give you access to the event. Adults £8, children £4.80.

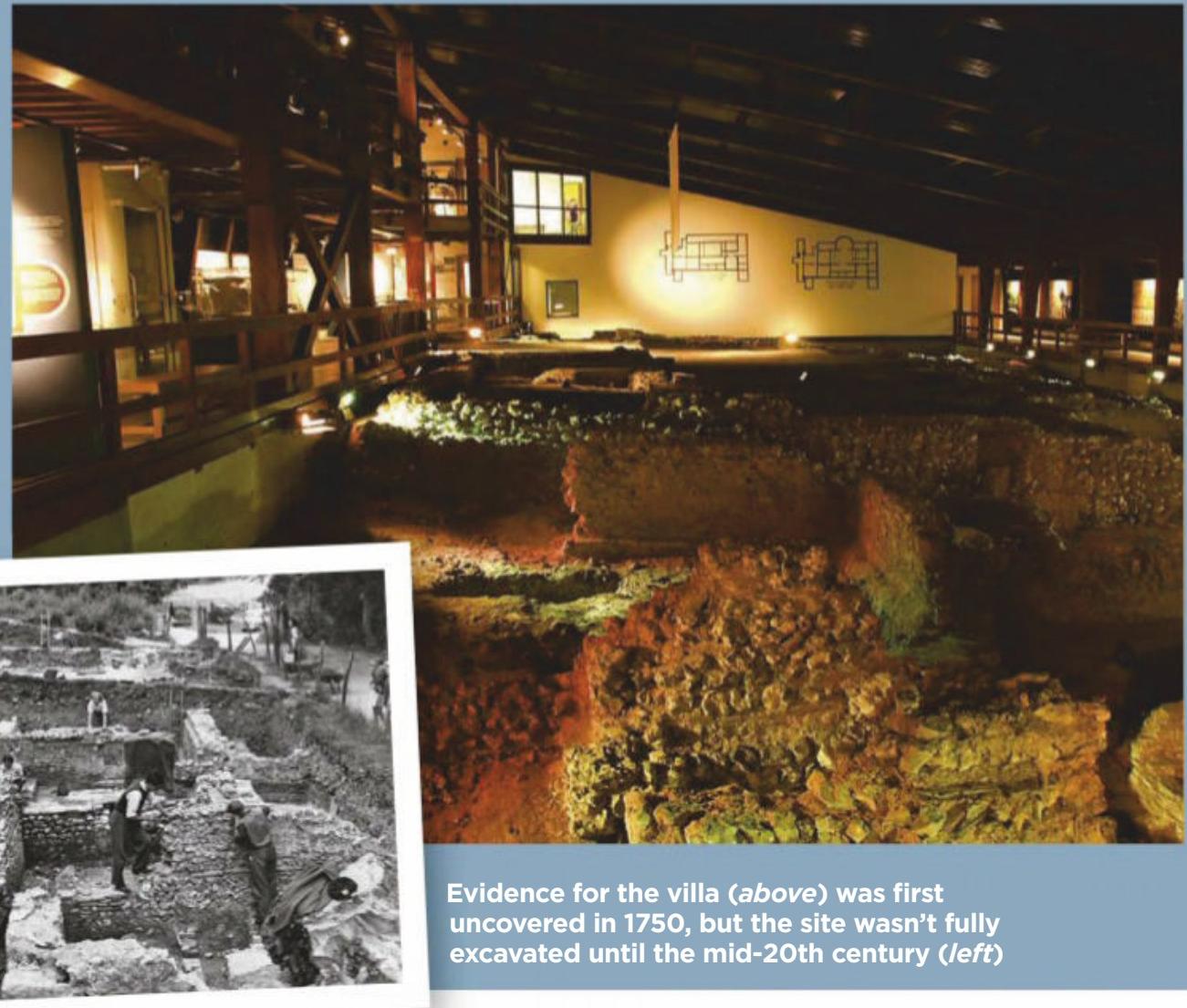


15-28 JULY

Lullingstone Roman Villa Community Dig

Kent, <https://festival.archaeologyuk.org/events/community-dig-and-70th-anniversary-celebration-lullingstone-roman-villa-1552914501>

The luxurious Roman villa at Lullingstone demonstrates some of the most significant evidence of early Christianity in Britain. As part of the 2019 Festival Archaeology, members of the public are invited to join in with a dig – you can also help wash and process your finds. There will be activities for children throughout the event. Visit the website to find out how to sign up to the dig. The dig is free to take part in but normal admission charges for the villa apply – adults £9, children £5.40.



Evidence for the villa (above) was first uncovered in 1750, but the site wasn't fully excavated until the mid-20th century (left)

15-19 JULY

Llys Dorfil

Near Tanygrisiau, Gwynedd, <https://festival.archaeologyuk.org/events/llys-dorfil-excavation-open-week-1555526849>

Cymdeithas Archaeoleg Bro Ffestiniog Archaeology Society is undertaking excavations at Llys Dorfil – an early enclosed settlement (*below*). As part of the 2019 Festival of Archaeology, the society is inviting members of the public to join in and see what secrets they can uncover. Visit the website to find out more information.



14-28 JULY

Alton Big Dig

Hampshire, <https://festival.archaeologyuk.org/events/alton-big-dig-1552910941>

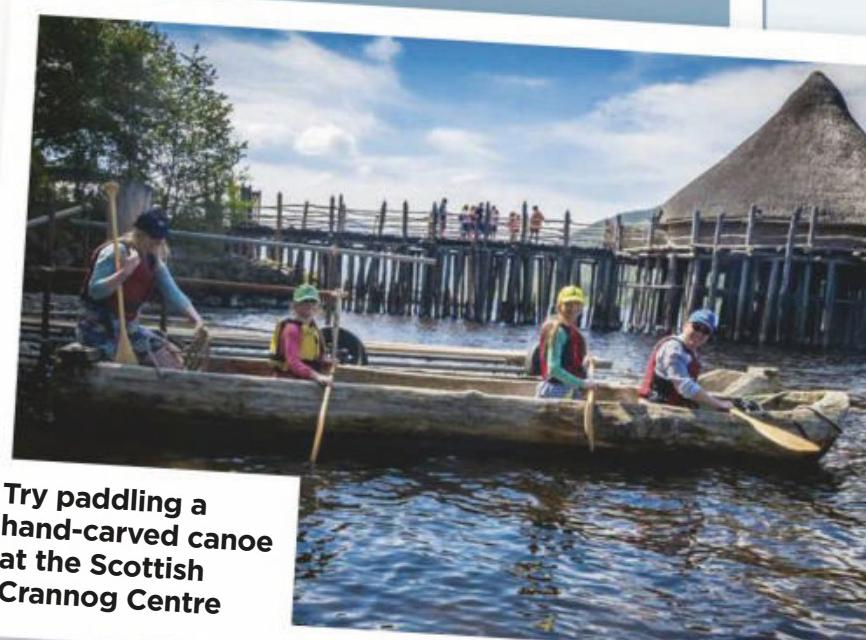
Unusual parch marks that appeared on the lawn of Alton Town Gardens in 2018 suggested there might be something beneath the grass. But what? Grab a trowel and get involved in this public dig. Experts from Liss Archaeology will be on hand to help analyse your finds and explain how the different archaeological techniques work. Visit the website to book a slot and find out more. There is no fee to join in with the dig.

2-5 AUGUST

Celts are Coming!

Scottish Crannog Centre, Perthshire, www.crannog.co.uk/what-s-on/388-celts-are-coming

A prehistoric celebration is coming to Scotland. Get fully immersed in the lives of Scotland's Iron Age people, as crafters demonstrate how these ancient people worked with bronze, leather and stone. Live entertainment, inspired by ancient Scottish music, will create an authentic atmosphere and you can even try your hand at being an archaeologist for the day. Adults £10, children £7.



Try paddling a hand-carved canoe at the Scottish Crannog Centre

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